The Hunterian Lectures

ON

THE NATURE AND ANATOMY OF ENTEROPTOSIS (GLÉNARD'S DISEASE).

Delivered before the Royal College of Surgeons of England on March 2nd, 4th, and 6th, 1903.

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LECTURE I.

Delivered on March 2nd.

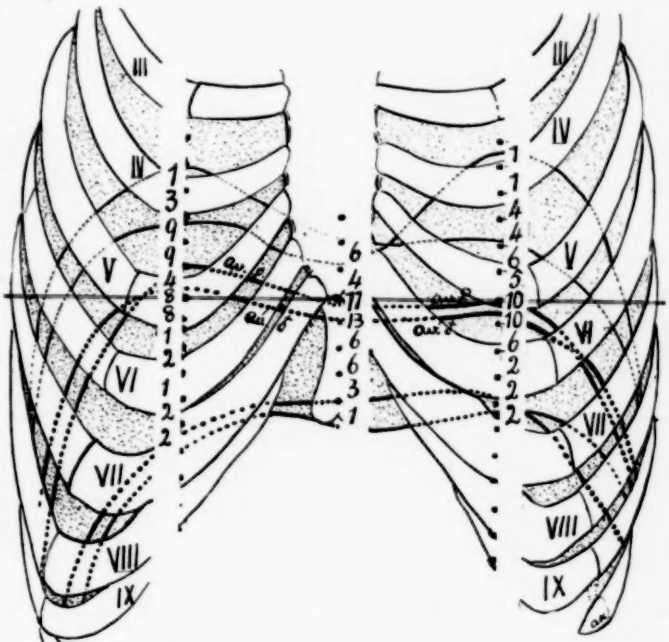
THE IMPORTANCE OF THE RESPIRATORY MOVEMENTS OF THE ABDOMINAL AND THORACIC VISCERA.

MR. PRESIDENT AND GENTLEMEN,—Few medical men, as they follow the respiratory heave and fall in a patient's body, attempt to form an accurate conception of the movements of the viscera within the cavities of the thorax and abdomen. They may know well that the heart, the liver, the stomach, the spleen, the kidneys, and the intestine go through a definite respiratory cycle with each breath, yet as these movements are but secondary to the expansion of the lung they are deemed of little importance within the field of practical medicine. My aim in the lectures which I have now the honour to deliver is to show (1) that a knowledge of the respiratory movements of the viscera gives the key to the manner in which they are fixed and placed within the body; and (2) that with any marked deviation in the action of the muscles of respiration there is a disturbance in the visceral movements, resulting in displacement and disorganisation of function.

The nature of enteroptosis.—The organs within the thoracic and abdominal cavities are poised between the muscles of inspiration and expiration, two contending sets which, throughout the life of the individual, strive for the mastery. There is in modern teaching a tendency to emphasise the respiratory importance of the walls of the thorax and to minimise the action of those of the abdomen. Yet the structure of air-breathing animals teaches very emphatically that the muscular wall of the entire trunk, from the upper aperture of the thorax to the floor of the perineum, is designed to increase and to diminish the ever-fluctuating respiratory capacity of the body cavity. The tendency to regard the thoracic as the chief respiratory part of the mammalian trunk is probably due to an erroneous conception of the action of the diaphragm. The diaphragm, it is true, separates the thoracic from the abdominal cavity, but its appearance within the mammalian body did not in any way relieve the muscles of the wall of the belly of their expiratory function. Quite the reverse; the diaphragm is an ingenious addition to the inspiratory group of muscles and its evolution entailed an increased development of the muscles of the belly wall. Every organ within the body cavity swings with the respiratory tide. With each breath taken the ordinary muscles of inspiration—the external intercostals, the intercartilagines (intercostals between the costal cartilages), and the diaphragm—enlarge the body walls and displace the viscera; with each breath given the internal intercostals, the transversalis, the external and internal oblique muscles, and the rectus abdominis replace the viscera. In the majority of people the respiratory ebb and flow are so finely adjusted that at the end of life the viscera are poised much as they were in youth. Yet in the lifetime of a very considerable proportion of men and women circumstances over which they may, or may not, have control arise and upset the balance between the inspiratory and expiratory groups of muscles. In such cases it is, with the exception of emphysematous conditions, the muscles of inspiration that gain the upper hand and the muscles of expiration that yield. When the respiratory balance is upset the viscera, not only of the abdomen, but also of the thorax, are displaced downwards and the condition of *enteroptosis* is produced. Thus enteroptosis is the result of a vitiated method of respiration and should be assigned really to the respiratory diseases. It sometimes happens that the incidence of the disease falls particularly on one organ, very frequently the kidney, sometimes the stomach, liver, or spleen. In such cases, although one organ has suffered the chief attack of the inspiratory force, yet a full examination will show that all are displaced although to a less degree.

The variable position of the diaphragm.—Every body opened in the dissecting-room shows, by the position of its viscera the result of a life-long contest between the two opposing sets of respiratory muscles. The diaphragm, which forms the roof of the abdominal cavity, rests like a muscular hood on the abdominal viscera. Three points in it—viz., the highest point of the right dome, the highest point of the left dome, which usually occur in the right and left mammary lines, and the part of its central tendon on which the heart rests, may be taken as representing the upper level of the abdominal viscera. In Fig. 1 are set forth diagrammatically the variations of the upper level of the abdominal viscera, observed in 50 subjects. On an

FIG. 1.



A diagram showing the position of the diaphragm in 50 subjects (35 male and 15 female). Tracings of the two highest and the two lowest diaphragms are represented; the two intermediate tracings give the average position for the male (lower) and female (upper). The xiphisternal joint was taken as the level from which vertical measurements were made. Centimetre points are represented in the middle and each mammary line. The middle and lateral vertical rows of figures represent the number of cases occurring in each centimetre.

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average the domes of the diaphragm and the abdominal viscera which fill them lie just behind the upper border of the fifth costal cartilage in the mammary line and the central tendon one third of an inch below the junction of the ensiform process and sternum. There is a wide and constant fluctuation from these average points. The domes may rise above the third costal cartilage or lie below the sixth; the central tendon may rest behind the sternum, an inch or more above the average point, or it may fall as low as the extremity of the ensiform process. Thus there is a range of over three and a half inches in the level of the domes and more than two inches in the central tendon of the diaphragm. The extensive fluctuation in the position of the diaphragm shown in Fig. 1 is due, to some extent at least, to the fact that the subjects on which it is founded varied widely in age. The series of bodies on which this figure is constructed includes 40 which were examined and very accurately recorded in a memoir by a predecessor in this chair, Professor C. Addison[1]; his observations deal with 28 men and 12 women, varying in age from 13 to 71 years. The dissecting-room subjects, including seven men and three women, which I have added to make up a series of 50, were aged individuals to whom nature had sternly debited to their old age the profligacy of their youth. Thus the fluctuation in the position of the diaphragm shown in Fig. 1 must be regarded as an exaggeration of the condition to be found in an equal series of healthy subjects in the prime of life. Seven female subjects, included in the following tables, were examined after the diagram given in Fig. 1 was prepared. On an average the position of the female diaphragm is slightly higher than that of the male (see Fig. 1). As may be seen from Table I. the range of variation is rather greater in the male than in the female and on the right side than on the left.[2]

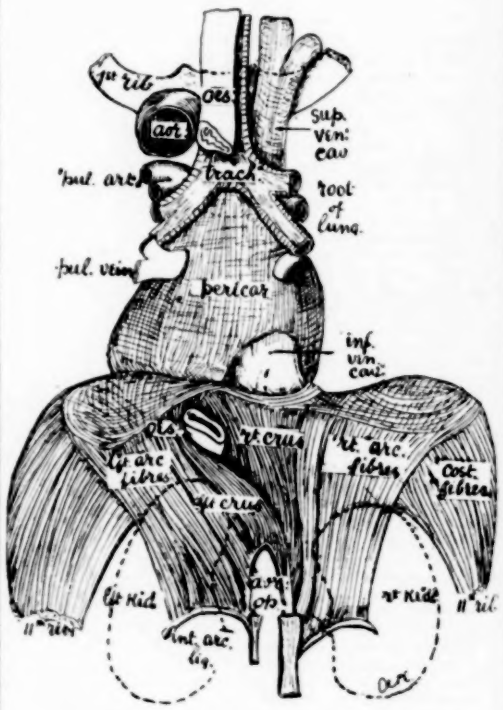
TABLE I.—*Showing the Level at which the Right Dome, the Central Leaflet, and the Left Dome of the Diaphragm occurred in 35 Male Subjects and 22 Female Subjects respectively.*

	Males.			Females.		
	In the right mammary line.	In the middle line.	In the left mammary line.	In the right mammary line.	In the middle line.	In the left mammary line.
	Cases	Cases	Cases	Cases	Cases	Cases
At the level of the third rib or third intercostal space ...	1	0	1	0	0	0
At the fourth rib or space ...	15	2	7	9	5	5
At the fifth rib or space	18	30	24	11	14	11
At the sixth rib or space ...	3	3	3	2	3	6

The variations in the level of the diaphragm represent the phases of its respiratory cycle.—Those who have watched the movements of the diaphragm in the living body by the aid of the Roentgen rays will be struck by the resemblance of Fig. 1 to a diagram representing the various phases through which the diaphragm passes in a complete respiratory movement of the abdominal type. The diaphragm after death, when rigor mortis is gone, represents a phase of complete expiration; the elasticity of the lungs insures the contraction of the pleural cavities to their utmost physiological extent. It is evident, then, that of the subjects represented in Fig. 1 the position of complete inspiration of those highest in the series corresponds in position to the phase in complete expiration in those the lowest in the series. Yet all started off alike at birth. In the full-time child the central tendon of the diaphragm hardly varies in position; it lies at the level of a line drawn from the sternal end of the sixth costal cartilage to the disc between the eighth and the ninth dorsal vertebræ. For some reason the supports of the diaphragm give way in certain individuals, but at what degree of displacement a marked impairment of its action and disorganisation of the function of the abdominal viscera take place it is difficult to define with exactitude, the physiological limits are so wide. There can be no doubt, however, that in the six cases (three males and three females) in which the domes of the diaphragm were situated below the level of the lowest part of the sixth costal cartilage and the central tendon on a level with the lower end of the ensiform process, were cases in which the action of the diaphragm was markedly impaired and the function of the viscera disorganised and that they were therefore true cases of enteroptosis. The disease must be judged not by the extent of displacement but by the degree of distress.

The supports of the diaphragm.—Since the downward displacement of the diaphragm is an essential feature of all cases of ptosis of the viscera the manner in which it is supported and maintained in position is naturally the first point to be settled. Besides, the liver, spleen, stomach, and kidneys are firmly bound to its abdominal aspect. The means of diaphragmatic support are three in number—viz., (1) abdominal, (2) thoracic, and (3) costal. The *abdominal* support is supplied by the muscles of expiration, mainly by those of the abdominal wall which keep the abdominal contents pressed within the concavities of the diaphragm. The *thoracic* support is provided by the pericardium, the heart,

FIG. 2.



The attachments of the crura and arcuate fibres of the diaphragm to the inferior vena cava and pericardium. (From a dissection made after removal of the spinal column.)

and the great vessels and lungs which directly or indirectly attach the upper surface of the diaphragm to the structures at the root of the neck and to the whole extent of the thoracic wall. The *costal* support is given by the abdominal ends of the lower six ribs, long moveable levers, maintained in position by their passive articulations with the spine and

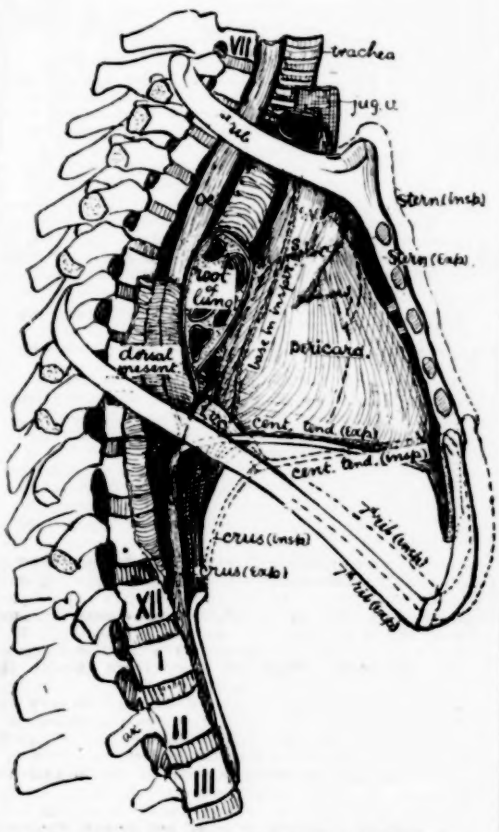
[1] The Topographical Anatomy of the Abdominal Viscera in Man, Journal of Anatomy and Physiology, vols. xxxiii., xxxiv., and xxxv.

[2] I take this opportunity of acknowledging my indebtedness to the following papers: Les Ptoses Viscérales, by Dr. Frantz Glénard; Ueber die Athembewegungen des Menschlichen Körpers, by Professor C. Hasse of Breslau, Archiv für Anatomie und Physiologische Anatomie, Abtheile, 1901; Die Entwickelung der Athemmechanik in Kindesalter, by Dr. Konrad Gregor, Anatomischer Anzeiger, Band xxii., p. 119, 1902; The Anatomy of the Intestinal Canal and Peritoneum, Hunterian Lectures by Sir Frederick Treves, 1885; On the Development of the Great Omentum and Transverse Colon, by C. B. Lockwood, Proceedings of the Royal Society of London, vol. xxxv., 1883.

the active contraction of the external intercostal sheet of muscles. Each of the three supports is necessary for the maintenance of the diaphragm in position; a partial collapse of one is followed by a corresponding failure of the other two. Hence it is that in well-marked cases of enteroptosis the chest is deformed, the thoracic viscera occupy abnormal positions, and the contents of the abdomen are displaced.

The mobility of the central or interpleural area of the diaphragm.—In the past I have followed the lead of the majority and taught that the part of the diaphragm between the pleuræ on which the heart rests and which the inferior vena cava, the œsophagus, and the aorta perforate was nearly immoveable and of little respiratory importance. Holding this conception, it was always a difficult matter to explain satisfactorily why the fibres of the two crura, constituting rather more than a fifth of the total muscle, should ascend vertically to be attached to the cardiac area of the diaphragm. (See Fig. 2.) The pericardium and the strongly ensheathed inferior vena cava, being intimately adherent to this area, prolong the insertion of the crural fibres to all the structures of the mediastinum, but especially to three parts: (1) to the heart itself; (2) to the roots of the lungs; and (3) to the great vessels and fibrous tissue in the upper aperture of the thorax. (See Fig. 3.) Thus with

FIG. 3.



Contents of the thorax seen from the right lateral aspect to show the attachment of the crus to the inferior vena cava and pericardium and indirectly to the roots of the lung. The parts are represented at the end of expiration. The position of the crus, central tendon, seventh rib, and sternum at the end of inspiration are represented by stippled lines.

each inspiration the crura, from a firm spinal origin, exert their strength in drawing downwards the structures of the mediastinum and thus drawing down the supports on which the central part of the diaphragm depends. The active contraction of the crura is the most important factor in the production of the condition of visceral ptosis.

The movements of the mediastinal structures.—To appreciate fully the action of the crural fibres it is necessary to turn aside for a minute and to consider the normal respiratory movements of the central part of the diaphragm and mediastinal structures. When the body is viewed in profile, the mediastinal structures are seen to occupy a well-marked triangle. (See Fig. 3.) The base of this mediastinal triangle is formed by the greater part of the central leaflet of the diaphragm, the sternum forms its anterior boundary, and the superior vena cava, auricular base of the heart, and inferior vena cava form its posterior wall. In the posterior boundary are fixed the roots of the lungs. The apex of the triangle is attached to the upper aperture of the thorax. When a breath is taken the mediastinal triangle and its contents swing forwards from the spine. Its posterior boundary, which slopes downward and backward at the commencement, becomes nearly vertical at the end of the inspira ory swing, while the anterior or sternal boundary, rising upwards and forwards, becomes more oblique.

To understand the pendulum-like movement of the mediastinal contents the following anatomical points have to be noted. 1. The upward and forward movement of the sternal boundary of the triangle is due to the contraction of two strong sheets of muscle—the external intercostals and inter-cartilagines; by elevating the ribs and costal cartilages they throw the sternum upwards and forwards. 2. The base of the mediastinal triangle, being bound to the ensiform process and seventh costal cartilages, must follow the forward and upward movements of the sternum. 3. The attachment of the crura to the posterior margin of the base drags that part of the base and the posterior contents of the triangle downwards during the forward movement. 4. That the forward movement of the mediastinal triangle may take place the contents of the mediastinum—the œsophagus, trachea, and heart—are bound loosely to the dorsal region of the spine by a mesentery[2] formed by the posterior reflections of the mediastinal pleuræ (see Fig. 3). This, the dorsal mesentery of the thorax, undergoes an extension forwards with each breath.

Estimation of the mediastinal movements.—Thanks to the introduction of the Roentgen rays the mediastinal movements, at first inferred from a consideration of the anatomical arrangements in the dead, can be verified and studied in the living. Turning a patient sideways to the tube, so that the rays enter in front of the lower angle of the left scapula and emerge behind that of the right, the base of the heart, when a deep breath is taken, can be seen to move forwards and downwards from the spine, leaving the posterior mediastinum a gleaming window behind it. The extent and direction of the movements vary with the type of respiration, but in a subject in whom the abdominal and thoracic respiratory movements are about equally developed the diagonal movement of the base of the heart, allowing for magnification of the image on the screen, varies from one and a half to two and a half inches in a complete inspiration. In abdominal breathers not only is the range of movement greatest but the downward displacement of the diaphragm and viscera is also much more marked. The inspiratory downward displacement, if once the diaphragmatic supports commence to yield, is one of the factors in the causation of visceral ptosis.

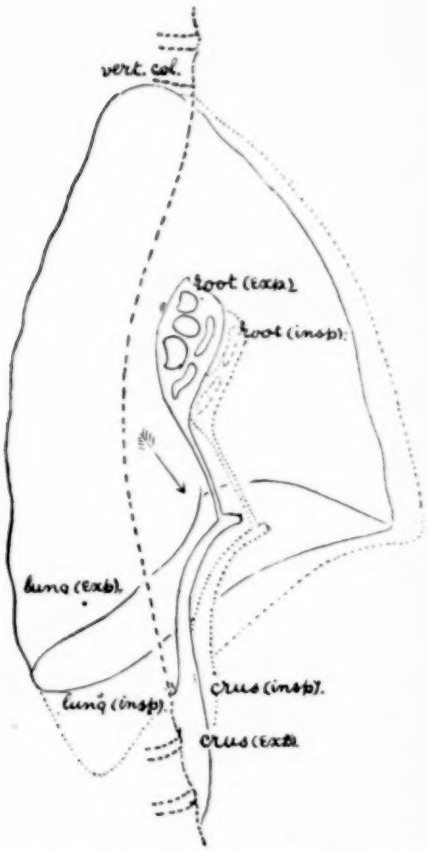
The adhesion of the base of the pericardium to the diaphragm in man.—The adhesion of the pericardium to the diaphragm in man is now recognised as an adaptation to his upright or orthograde posture. It serves as a most effective support against ptosis of the viscera. In the anthropoids, which also are orthogrades, the same extensive pericardial attachment is to be seen. The adaptation is peculiar in this that it is a relapse to a more primitive condition. During the embryonic development of all mammals the base of the pericardium and central tendon of the diaphragm are fused, but in all mammals, except those adapted to the orthograde posture, the two become separated as the lungs develop. A lobe of the right lung, the *lobus azygos*, a vestige of which is present in man, expands and collapses with each breath between the pericardium and central tendon. Thus in pronograde mammals the central as well as the lateral parts of the

[2] This term may be correctly used. The serous reflection is derived from the dorsal mesentery of the foregut.

diaphragm take a direct part in filling and emptying the lungs. The adhesion of the pericardium to the diaphragm, with the evolution of the upright posture, far from diminishing the inspiratory load of the central part of the diaphragm, as might appear at first sight, increases that load. Instead of exercising its inspiratory effect directly on the lung the central part of the diaphragm produces it through the heart. The heart is shaped so as to serve as a respiratory cone or plug; when drawn downwards and forwards by the crural fibres an inward expansion of the lungs occurs to occupy the space vacated by the heart. The crural fibres, as I have pointed out elsewhere,[4] probably also produce a direct effect on the heart and assist in the valvular mechanism round the termination of the great veins in the auricles.

The attachment of the central part of the diaphragm to the roots of the lungs.—The central part of the diaphragm being attached to the roots of the lungs through the pericardium it is evident that a contraction of the one must be accompanied by some degree of displacement in the other. Why should the diaphragmatic crura be thus yoked to the roots of the lungs? The explanation is shown in Fig. 4. When

FIG. 4.



Showing the direction of the expansion of the lung. It takes place only in a downward, forward, and outward direction. The root of the lung moves in a corresponding direction. The stippled lines represent the anterior border of base, crus, and root at the end of inspiration.

a breath is drawn the apex and posterior wall of the thorax take no part in the enlargement of the chest; the expansion takes place only in a downward, forward, and outward direction, necessitating a movement of the entire lung. Were the roots of the lungs fixed such a movement would be greatly impeded. The centre of the lung, represented by the root, moves downwards and forwards with each breath to allow the lung to expand equally. The crura of the diaphragm assist this movement, the heart and lungs being thus maintained in the same relative positions at all phases of the respiratory cycle. The elasticity and extensibility of the trachea greatly facilitate the descent of the pulmonary roots.

Cervical curvature in visceral ptosis.—In cases of visceral ptosis there is commonly a marked forward curvature in the cervical region of the spine—"ewe-neck," as Dr. W. Williams[5] names the condition. An explanation of this symptom will be found in the attachment of the structures of the mediastinum which support the central part of the diaphragm from the upper aperture of the thorax and structures in the root of the neck. The fibrous tissue which ensheathes the pulmonary vessels and also the great venous and arterial trunks of the superior mediastinum and neck represents the strewn-out remnants of the branchial arches; it is really a direct upward continuation of the fibrous pericardium into the neck. By this tissue the contents of the mediastinum are bound to the upper margin of the manubrium sterni, to the inner ends of the clavicles, to Sibson's fascia, to the first pair of ribs and anterior tubercles of the cervical transverse processes. The first pair of ribs in cases of ptosis are not only oblique in position but are often bent downwards at the junction of the neck and body. The cervical curvature is probably due to a failure of the costal or abdominal supports of the diaphragm, whereby an increased strain is thrown on the mediastinal supports and by them transferred to the neck.

The lungs as diaphragmatic supports.—Collapse and displacement of the domes of the diaphragm are the most characteristic features of visceral ptosis and hence it is necessary to inquire into the structures which support them in the thorax. Rightly considered, the lungs themselves are really conical elastic ligaments which bind the domes of the diaphragm to the whole extent of the costal wall. Unless air or fluid is introduced into the pleural cavity the lung is bound by the pressure of an atmosphere to the diaphragm and thoracic parietes; hence to allow the domes to become permanently depressed either the lungs must become elongated or their elasticity lessened. A deformity of the chest which lessens the pulmonary space will lead to a downward displacement of the lungs and consequently of the domes of the diaphragm. The elasticity of the lung is greatly diminished in emphysema, but ptosis is prevented in such cases by the hypertrophy of the transversalis muscles of the abdomen.

Summary of the thoracic supports of the diaphragm.—It will thus be seen that all the structures within the thorax, the heart, the great vessels, the pericardium, the mediastinal and cervical fasciæ, the dorsal mesentery of the thorax, and the lungs, help to bind the diaphragm to the walls of the thorax and neck. Each contraction of the diaphragm has to overcome the resistance offered by these structures to its contraction; the resistance it overcomes, which results in expansion of the lungs, may be termed the thoracic load of the diaphragm.

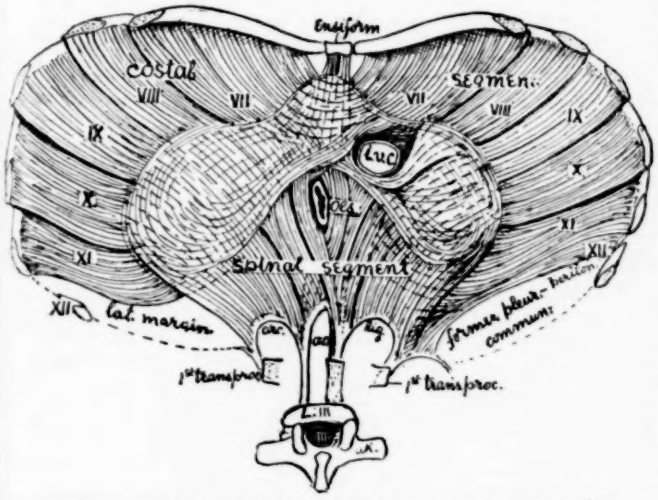
The structure and action of the diaphragm.—However important the passive supports of the diaphragm may be it is the contraction of the muscle itself, that is the active factor in the production of displacement of viscera. Although one of the most important muscles of the body it is also one of the least understood. The traditional account of the diaphragm which has come down through the centuries to us as a muscle which takes its origin by a series of fasciculi from the circumference of the body wall and converges to its central tendon like the spokes of a wheel to the nave, has done more to retard a true conception of the respiratory movements than any other circumstance. In structure, in development, in evolution, and in action the diaphragm is a true digastric muscle made up of two segments, a spinal or dorsal and a costal or ventral. The spinal segment consisting of crural and arcuate fibres (see Figs. 2 and 5) takes a fixed origin from the last dorsal and upper three lumbar vertebræ and from the arcuate ligaments, thickenings of the sheaths of the psoas and quadratus lumborum muscles. These spinal fibres, expanding as they ascend, terminate as fibrous strands in the central tendon, from which most of the fibres of the costal segment directly

[4] Proceedings of the Anatomical Society of Great Britain and Ireland, November, 1902.

[5] Pathological Reports of the Royal Southern Hospital, Liverpool, 1901.

arise. (See Fig. 5.) The costal fibres spread as they descend in front to their insertion on the abdominal or ventral ends of the lower six ribs, but, as a rule, there is no insertion to the twelfth rib. The development of the arcuate fibres in man and in other orthograde primates has helped to obscure the true nature of the diaphragm. In "four-footed" or pronograde primates only the crural fibres are present, but with the assumption of the orthograde posture the spinal segment of the muscle spreads outwards to the tip of the twelfth rib until the spinal origin and costal insertion of the muscle almost meet. At the same time, the insertion

FIG. 5.



The diaphragm spread out and viewed on its thoracic aspect. Fibres pass through the central tendon and unite the muscular fasciculi of the spinal segment to those of the costal segment.

of the quadratus lumborum, a muscle which represents a backward continuation of the sheet from which the crural fibres of the diaphragm were developed, also undergoes a corresponding extension outwards and thus binds the origin of the arcuate fibres to the ilium. In more than one-half of the subjects which I have examined there was a fibrous interval between the origin and insertion of the diaphragm. (See Figs. 3 and 5.) The interval marks the site of communication between the pleural and peritoneal cavities and the outer or lateral margin of the diaphragm. With the evolution of the mammalia the outer edge of the diaphragm became fixed by fibrous tissue to the lateral costal wall and the pleural space separated from the peritoneal. Congenital diaphragmatic herniæ occur between the lateral margin of the diaphragm and costal wall; in such cases the free lateral margin of the diaphragm can be seen very distinctly.

LECTURE II.

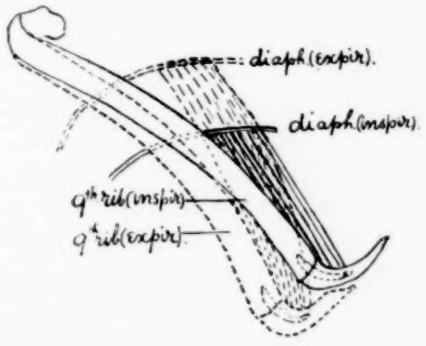
Delivered on March 4th.

The manner in which the diaphragm became a muscle of inspiration.—It is only in mammals that the diaphragm is inspiratory in action; the muscles which represent the spinal and costal segments in amphibians, reptiles, and birds assist in emptying the lungs. In man, as in mammals generally, were the contents of the abdominal cavity removed the diaphragm, by drawing the costal margin inwards in the direction of its origin from the lumbar spine, would diminish the body cavity and thus act as a muscle of expiration. By the simple device of using the contents of the mammalian abdomen as a respiratory piston the diaphragm became one of the chief muscles of inspiration. This piston, pressed within the thorax by the muscles of the abdominal wall, carried in front of it the broad, fan-shaped, double segmented diaphragm. It is this relationship to the abdominal viscera that gives the diaphragm its importance as a factor in the production of enteroptosis.

The movements of the abdominal contents in thoracic and abdominal types of respiration.—The effect which the diaphragm will exercise on the abdominal viscera on inspiration depends on two factors: (1) the opposition offered by the muscles of the abdominal wall to the descent of the viscera; and (2) the mobility of the lower six ribs. To the abdominal ends of these the costal fasciculi of the diaphragm are inserted. If the muscles of the abdominal wall offer a strenuous opposition to the descent of the viscera then the abdominal contents are no longer a respiratory piston but a respiratory fulcrum over which the diaphragm is supported and from which it exerts its force on the points of insertion, the lower six ribs. By its contraction it tends to lift the whole thoracic cage off the abdominal fulcrum. The type of respiration is then said to be *thoracic*. If, on the other hand, the abdominal walls and viscera yield to the pressure of the diaphragm then the force of its contraction is spent, not in assisting the external intercostals in lifting up the thoracic cage, but in forcing down the abdominal viscera which become thus a respiratory piston. The type of respiration is then said to be *abdominal*. Whether the type be thoracic or abdominal, in either case the effect of its contraction may lead to displacement of the abdominal viscera. If the visceral swing is greatest in the abdominal type the pressure to which the abdominal viscera are subjected is greatest in the thoracic type, but which of the two types is the more dangerous I cannot at the present tell.

The effect of displacements of the ribs on the action of the diaphragm.—In all circumstances, whether the type of respiration be abdominal or thoracic, or whether the ribs be normally placed or not, the action of the spinal segment of the diaphragm remains practically the same; it draws downwards the parts of the abdominal viscera attached to it. It is otherwise with the action of the costal segment. The direction in which the costal fibres act depends on the position of the ribs (Fig. 6). If they are misplaced the action of the fibres are altered. The direction of a costal fasciculus of the diaphragm does not quite correspond to the axis of the rib on which it acts, although at the end of

FIG. 6.



Showing the relationship of the costal fibres to a rib at the end of inspiration and at the end of expiration (stippled).

inspiration they are nearly identical. In the expiratory phase the fasciculus to the ninth rib, for example, takes its origin from the central tendon on a level with the eighth rib, or that for the tenth rib on a level with the ninth. But for all practical purposes the lower six ribs may be taken as

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indices of the axes in which the costal fibres of the diaphragm act. Hence when the ribs are at a small angle with the horizontal, as they are in the child at birth (from 25° to 30°), the costal fibres, being arranged nearly in the axis of the rib, draw the viscera, which are within the concavity of the diaphragm, forwards against the anterior abdominal wall. In most mammals the horizontal (or in them vertical) position of the ribs is retained throughout life but in the course of growth the ribs of man become depressed from 10° to 20° and come to occupy a position midway between the horizontal and vertical. The depression of the ribs is accompanied by a corresponding alteration in the direction of the costal fibres of the diaphragm. (Fig. 6.) These fibres then tend to push the viscera more downwards than forwards. If the ribs be still further displaced, as they frequently are by the application of corsets or from disease, the action of the costal fibres of the diaphragm becomes still more vertical in the direction of their axis. The more the fibres of the diaphragm tend to propel the viscera in a vertical direction the greater is the danger of visceral displacement.

The subcostal angle.—At birth the subcostal angle, formed by the costal cartilages of the seventh and eighth ribs of one side with those of the other, measures about 90°; in the adult it becomes reduced to about 65° owing to the increased obliquity of the ribs. In some cases of enteroptosis the subcostal angle measures 45° degrees or less, and in such cases the subject is usually female and under 45 years of age. On the other hand, enteroptosis in old people is accompanied by an opening out of the subcostal angle; in marked cases of displacement it measures from 90° to 95°. It is very probable that the narrow angle of the younger cases becomes the wide angle in the older cases. The widening occurs and the displacement becomes more marked when, owing to the costal cartilages beginning to calcify, artificial supports of the body have to be undone or laid aside.

The development of the thoracic type of respiration.—The terms "thoracic" and "abdominal" certainly mislead many as to the true nature of the two types of respiration met with in human beings. By "abdominal" is meant that type in which the pulmonary space is obtained mainly by an increase of the lower region of the thorax; by "thoracic" that in which it is gained mainly by an expansion of the upper region of the thorax. The abdominal is the mammalian type of respiration, and up to the seventh year, according to Dr. Konrad Gregor,[1] the human child retains this type. After the seventh year the muscles of the wall of the abdomen offer a greater resistance to an inspiratory descent of the viscera and the type of respiration becomes more thoracic. The alteration is more marked in girls than in boys, but in both sexes the types of respiration are mixed, the thoracic preponderating in the female and the abdominal in the male.

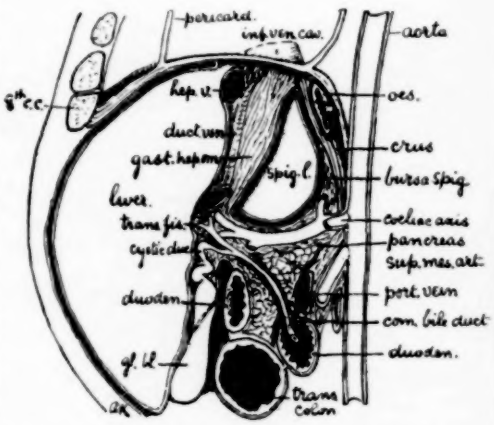
The visceral movements due to the action of the external intercostals and interchondrals.—Were the diaphragm merely a fibrous, non-muscular septum, the other muscles of inspiration, the external intercostals and interchondrals, by raising and enlarging the costal margin of the thorax would cause a movement of the abdominal viscera. The inspiratory movement of the costal margin, besides raising the floor of the thorax, also increases the circumference of the diaphragm from one to four inches, according to the degree of inspiration. The liver, stomach, spleen, and colon, in contact with the under surface of the diaphragm, undergo a corresponding change in shape and movement. Thus, by their traction on the costal insertion of the diaphragm, the external intercostals assist that muscle in its inspiratory efforts.

THE FIXATION AND MOVEMENTS OF THE ABDOMINAL VISCERA

Some years ago, when I began to pay special attention to the manner in which the viscera were retained in position, I undoubtedly attributed too much importance to the passive bonds which fix the viscera to the walls of the abdomen. In tracing the evolution of the upright posture through the various intermediate stages to be found in the living genera of primates I found that with each advance towards the orthograde posture the abdominal viscera became more extensively and more firmly fixed to the walls of the abdomen. The extensive fixation found in adult man marks the culmination of the movement; still, in his embryonic and fœtal stages man repeats with wonderful accuracy the various conditions revealed by a study of the primates. Later I saw that, however interesting the visceral bonds may be, they are of but minor importance in the causation or prevention of enteroptosis in comparison with the diaphragm. Having dealt with the fixation and movements of the diaphragm, the manner in which each abdominal organ is kept in position may now be described.

Radix mesenterica.—At only one small area of the abdominal cavity are its contents immoveably fixed. In front of the twelfth dorsal and first lumbar vertebræ, between the origin of the crura of the diaphragm, the aorta emerges from the dorsal mesentery of the thorax, covered with a strong fibrous coat, and gives off the two great arterial trunks of the viscera—the cœliac axis and superior mesenteric artery. (Fig. 7.) Here is the hilum of the

FIG. 7.



Vertical section of the abdomen of a child at birth to show the fixation of the abdominal viscera at the radix mesenterica.

peritoneal cavity. From the crura of the diaphragm and sheath of the aorta strong fibrous and fibro-muscular strands stream outwards on the arterial trunks of the liver, stomach, and intestine. Imbedded in the mass of fibrous tissue at each side of the origin of the arteries are the semilunar ganglia; the solar plexus streams out on the fibrous sheaths of the vessels. Rich leashes of mesenteric lymphatics pass along the sheaths to reach the receptaculum chyli between the aorta and right crus. A special fibro-muscular band (muscle of Treitz) leaves the left crus, often the right, to end in the duodeno-jejunal flexure and to bind it to the fibrous mass. In the fork between the cœliac axis and superior mesenteric artery is firmly bound a segment of the body of the pancreas. Whatever displacement may happen to the rest of the abdominal viscera the duodeno-jejunal flexure and the part of the pancreas just mentioned remain in position. To the roots of the two arterial trunks and the strong fibrous mass derived from the crura and aortic sheath the name of "radix mesenterica" is given. Prolongations from it stream into the gastro-hepatic omentum (see Fig. 7) to the hilum of the kidneys, to the mesentery of the small gut, and to the sheath of the œsophagus. It is the centre round which the respiratory movements of the abdominal organs take place. The radix mesenterica is not a human peculiarity; it is essential for the welfare of all animals that the blood, nerve, and lymph systems of the abdominal viscera should be so safeguarded. With the exception of the two parts just mentioned, all the abdominal viscera are fixed to the muscular walls of the abdomen and are subject to the respiratory movements.

Fixation of the liver.—The liver is fixed solely to the diaphragm, but so strong and close is the bond between them that its removal from the abdominal cavity is a matter of

[1] Die Entwickelung der Athemmechanik in Kindesalter, Anatomischer Anzeiger, Band xxii., 1902, p. 119.

difficulty. Of the various structures which retain the liver closely pressed within the concavity of the diaphragm—peritoneal reflections, connective tissue adhesions, vascular bonds, and muscles of the wall of the abdomen—the last named are by far the most important. The visceral shelf on which the under surface of the liver rests, composed of the stomach, duodenum, pancreas, colon, and right kidney, is maintained by the action of the abdominal muscles. The vena cava and hepatic veins, by their intimate fusion with the central tendon of the diaphragm on the one hand and the substance of the liver on the other, constitute a highly important bond. When one comes to deal with the other uniting structures of the liver, the connective tissue adhesions and peritoneal reflections, the ill-defined condition of their nature and nomenclature prevents an accurate description. I refer especially to the connective tissue which binds so firmly the posterior aspect of the right lobe of the liver to the arcuate fibres and right leaflet of the diaphragm and to the reflexion of peritoneum which surrounds the connective tissue bond (Fig. 8). It represents the dorsal mesentery

FIG. 8.

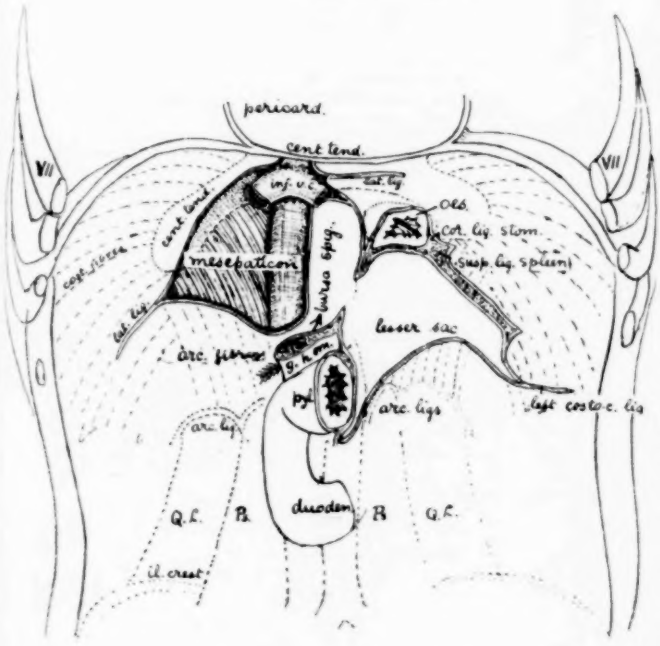


Diagram of the posterior wall of the abdomen, showing the attachments of the liver, stomach, and spleen to the diaphragm. The arrow is placed in the foramen of Winslow.

of the liver and therefore ought to be named the "mesepaticon."[a] It forms by far the chief passive bond of the liver. The terms "right lateral ligament" and "left lateral ligament" should be reserved for the well-marked membranous folds which stretch out to the right and left from the mesepaticon, while the useless term "coronary ligament" should be discarded. The suspensory ligament, the ventral segment, represents the ventral mesentery of the liver. It is long and loose to permit the respiratory movements of that organ.

Bursa Spigelii or vestibule of the lesser sac.—The diverticulum of the lesser sac which separates the right crus of the diaphragm from the Spigelian lobe of the liver (see Fig. 7) has scarcely received the attention it deserves. In this diverticulum or bursa the Spigelian lobe of the liver descends and ascends with each respiratory contraction of the crus. A better view of the bursa Spigelii is obtained when the liver is removed (see Fig. 8), when it is seen to be really the vestibule of the lesser sac. Although usually described as part of the lesser sac it is quite different in function and in development and more ancient in origin than the real sac of the omentum which lies behind the stomach and within the great omentum and opens into the bursa Spigelii in front of the cœliac axis. In all air-breathing vertebrates the bursa Spigelii is developed as a diverticulum of the peritoneal cavity and growing into the dorsal mesentery separates the attachments of the liver from that of the stomach. It is developed to allow the liver to accommodate itself to the filling and emptying of the lungs.

Respiratory movements of the liver.—If one accepts the conventional description of the diaphragm as a pair of ascending and descending muscular domes, then the viscera within each dome, the liver, the stomach, and the spleen must descend as visceral hammers amongst the viscera below them with each inspiration. Such a view holds true only for subjects in whom the thorax has been disturbed by disease or clothing and the normal action of the diaphragmatic fasciculi upset. To understand the normal respiratory movements of the liver it is necessary to remember (1) that in inspiration the bases of the lungs descend forwards, downwards, and inwards in the direction of the radix mesenterica and (2) that the liver, lying in the floor of the right pleural cavity, has to be moved in the same direction to allow the expansion of the right lung to take place. The extent of the downward movement depends on the resistance of the belly wall muscles; in a marked thoracic type of respiration there may be no descent, but taking a type in which the thoracic and abdominal types are nearly equally blended the respiratory movements of the liver resolve themselves into the three rotations shown in Figs. 9. 10, and 11.

The three movements.—1. The rotatory movement round a median antero-posterior axis shown in Fig. 9 is well known. The lateral parts of the diaphragm being more muscular and more moveable than the central part the portion of the liver within the right dome descends downwards and inwards while the part beneath the central tendon remains nearly stationary as far as a movement in a vertical plane is concerned. (See Fig. 10.) 2. The rotation shown in Fig. 10 is round a vertical median axis and is by far the most important of the three movements. The long, loose, suspensory ligament freely allows this movement. The forward swing of the right lobe of the liver in the third movement is produced by two sets of fibres: (1) the costal fibres from the eighth, ninth, tenth, and eleventh ribs which, sweeping round the liver, are finally bound to it by the mesepaticon; and (2) the external intercostals, by raising the abdominal ends of the lower six ribs upwards, outwards, and forwards, assist the costal fibres in producing a forward movement of the liver. 3. The third movement, represented in Fig. 11, takes place round a horizontal axis drawn from side to side of the body. While the posterior or dorsal part of the liver, under the traction of the right arcuate and crural fibres, passes downwards and inwards and the Spigelian lobe slides down on the right crus and forwards on the pancreatic shelf, the anterior or subcostal part of the liver ascends with the sternum and ribs. The rotation of the liver occurs simultaneously with the tilt and swing of the cardiac platform described in my first lecture.

The respiratory movements of the liver are of more than theoretical import; they explain the manner in which the organ is suspended and fixed; they take place without disturbing the function of the viscus; indeed, their occurrence is probably a necessary condition of healthy hepatic action. Unfortunately the normal movements are liable to be disturbed from many causes. Relaxation or weakening of the wall of the belly may withdraw support from the visceral

[a] I use the term on the authority of Slade and White.

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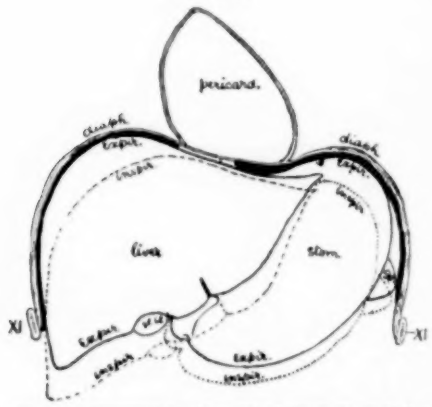
shelf on which the liver rests; the costal margins may be distorted by clothing, by disease of the spine or of the thorax. The hepatic chamber becomes then diminished in size and altered in shape, and the muscles which produce

FIG. 9.

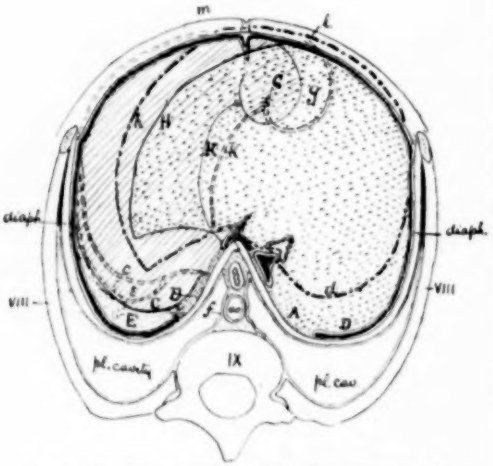


Showing the downward displacement of the contents of the domes of the diaphragm during respiration. The positions of the liver, stomach, and spleen at the end of inspiration are shown by stippled lines.

the normal movements are thrown out of gear; vitiated movements result which are incompatible with the healthy action of the liver.

Fixation of the stomach and spleen.—Before describing the displacements and vitiated movements of the liver it is convenient to deal with the stomach and spleen, which, in

FIG. 10.

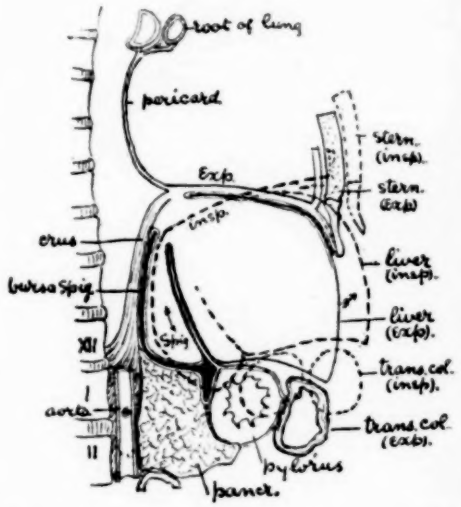


Showing the forward rotation of the liver, stomach, and spleen during inspiration. (Prepared from an oblique section above the eighth pair of ribs of a child at birth.) A, mesepaticon. B, coronary ligament of stomach and suspensory of spleen. C, fundus of stomach in expiration. *c*, same in inspiration. D, posterior border of liver in expiration. *d*, same in inspiration. E, spleen in expiration. *e*, same in inspiration. *f*, dorsal mesentery of thorax. G, pylorus in expiration. *g*, same in inspiration. H, left edge of liver in expiration. *h*, same in inspiration. *t*, anterior border of liver in inspiration. *m*, anterior border of stomach in inspiration.

manner of fixation and movement, are the counterparts of the liver. For the purposes of description the stomach is regarded as being full or nearly full; as it empties its place in the left hypochondrium is taken by the ascent and distension of the splenic flexure of the colon. The means whereby the stomach and spleen are retained in position correspond exactly to those of the liver. In the first place a visceral shelf, made up of the transverse colon and its mesentery, the pancreas, duodenum, and left kidney, is maintained under them by the muscles of the abdominal wall; in the second place, there are the coronary ligaments of the stomach and suspensory ligament of the spleen which binds the fundus of the one and the upper pole of the other to the left arcuate fibres of the diaphragm in the same manner as the mesepaticon fixes the liver to the arcuate fibres of the right side (see Fig. 8); in the third place there is the œsophagus, although not so intimately united with the diaphragm as the inferior vena cava, yet by the strength of its fibrous coat, which is continuous with the tissue of the diaphragm and dorsal mesentery of the thorax, fixes the stomach to the left crus after the manner in which the vena cava joins the liver to the right. The contents of the left hypochondrium have two special bonds, scarcely represented on the right. 1. The costo-colic ligament, a derivative of the great omentum, forms a shelf below the spleen; there is occasionally a corresponding structure formed in a similar manner below the liver. 2. The renal surface of the spleen is closely fixed to the kidney by the lieno-renal ligament and by a wide adhesion which takes place in the third month of development. This bond has to be considered in accounting for the rarity of displacement of the left kidney.

The gastro-hepatic omentum as a visceral bond.—From a clinical point of view the gastro-hepatic omentum is by far the most important of the visceral bonds. More than half the sequelæ resulting from ptosis of the liver and stomach are due to compression, straining, or distortion of the bile, blood, nerve, and lymphatic channels contained in this omentum (see Fig. 7). That the omentum is attached to the lesser curvature of the stomach is a minor circumstance.

FIG. 11.



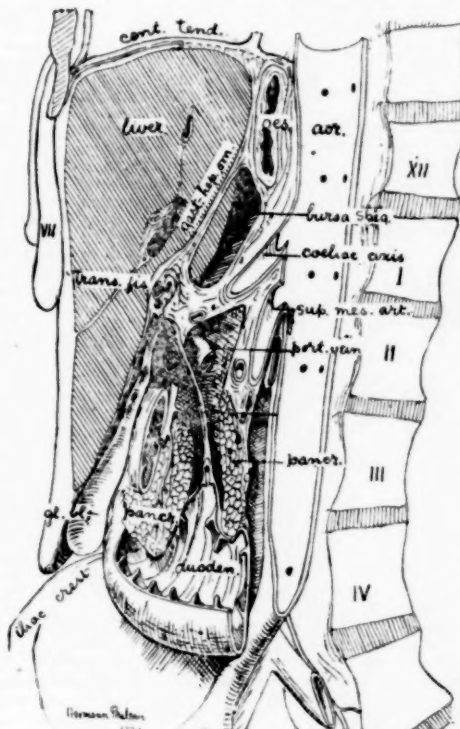
Vertical median section to show the rotatory movement of the liver during respiration. The inspiratory phase is stippled.

The two attachments which must be reckoned of importance are as follows: 1. That to the fibrous tissue of the radix mesenterica (see Fig. 7) which streams into the omentum along the hepatic artery, lays hold of the portal vein, the common bile-duct, and the pylorus, and passes upwards to the transverse fissure, where it joins the capsule of Glisson. Thus, the pylorus, the transverse fissure of the liver, and its important contents are attached by the radix mesenterica to the spine, at that point which forms the centre of the circle of visceral rotation. 2. The structures which pass in the omentum to the transverse fissure of the liver are bound to the central tendon of the diaphragm by the fibrous remnants of the ductus venosus and by a strong set of fibres which thicken the part of the omentum within the longitudinal fissure of the liver. The importance of the two attachments

of the gastro-hepatic omentum, the one to the diaphragm, the other to the radix mesenterica, will be evident when the displacements of the liver are described.

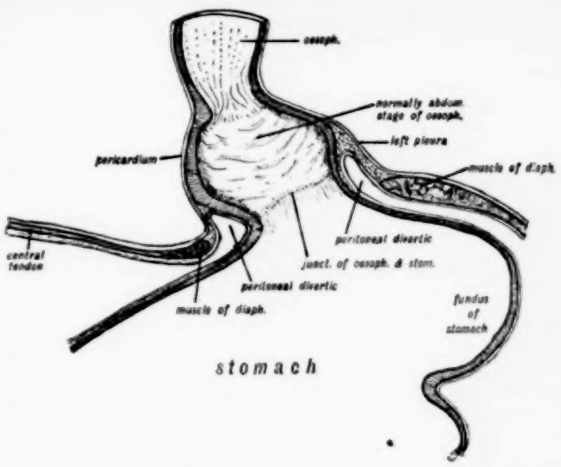
The respiratory movements of the stomach and spleen.—The respiratory movements of the stomach and spleen correspond to those of the liver and are shown in Figs. 9, 10, and 11. The only one of these worthy of special notice is the forward swing represented in Fig. 10. This movement explains the shape of the liver and stomach, and the fixation and arrangement of the gastro-hepatic omentum. The liver is wedge-shaped, with its apex to the left; the stomach is also wedge-shaped, with its apex to the right; the gastric wedge rotates under the hepatic wedge during the inspiratory swing and the gastro-hepatic omentum is situated at the centre of the rotatory movement. The omentum is relaxed as the organs swing forwards on each other; it becomes tightened as they fall back on inspiration. The mesepaticon and mesogastrium are the points at which the diaphragmatic force is applied by the arcuate fibres (see Figs. 8 and 10); the radix mesenterica and gastro-hepatic omentum form the tether on which the liver and stomach may circle. The inspiratory heave at the epigastrium is due not so much to a direct forward propulsion of the viscera as to the rotation bringing their wider transverse diameters into an antero-posterior plane (see Fig. 10).

FIG. 12.



Vertical section of the abdomen of a woman, the subject of enteroptosis, showing the stretching of the bile-ducts and a diverticulum of the duodenum. The liver is flattened and the pancreas and duodenum are displaced downwards. The kidney lay in the iliac fossa. (Drawn by Dr. H. Balcan from a preparation in the London Hospital Medical College Museum.)

FIG. 13.



An example of diaphragmatic hernia of the stomach in a case of ptosis. (From the Proceedings of the Anatomical Society of Great Britain and Ireland.)

The correlation of gall-stones and enteroptosis.—Gall stones are commonly, if not always, present in cases of enteroptosis. The condition of visceral displacement certainly favours their formation. In ptosis the anterior superficies of the liver is greatly increased owing to that aspect of the organ, normally superior in position and in contact with the diaphragm, being extruded and pressed downwards beneath the costal margin. It is also flattened from before backwards and greatly elongated, the fundus of the gall-bladder being thus carried downwards from two to three inches. The neck of the gall-bladder and cystic duct are, on the other hand, fixed by the gastro-hepatic omentum to the central and least displaced part of the diaphragm (see Figs. 7 and 12). Further, the displacement of the liver invariably causes a corresponding descent of the duodenum, head of the pancreas, and termination of the common bile-duct (Fig. 12). In this condition, then, while the cystic and hepatic ducts are fixed by the gastro-hepatic omentum to the central tendon of the diaphragm, the fundus of the gall-bladder and the common bile-duct are being thrust downwards. These two, instead of lying at an angle of from 35° to 45° to each other, come to lie nearly parallel; a strain at the same time is thrown on the cystic duct, which even in normal conditions requires a spiral valve within to keep it open. Owing to the strain thus thrown on the cystic duct the bile enters and leaves the gall-bladder with difficulty and a condition favourable to the formation of gall-stones is produced. Dr. C. J. Andrews has observed a marked dilatation of the cystic duct in a case of ptosis.

Enlargement of the stomach.—A displaced stomach is always, or nearly always, an enlarged stomach. It is conceivable that in some cases of visceral ptosis the displacement may be produced by an enlargement of the stomach or by a distended transverse colon, but there are many reasons for considering gastric distension as a consequence rather than as a cause. At least, the stretching and marked elongation of the gastro-hepatic omentum and of the numerous vascular and nervous structures within it, which invariably occur in enteroptosis, must be taken into account. The arteries, nerves, lymphatics, and veins of the stomach enter or emerge from the radix mesenterica; a displacement of the stomach to any marked degree must throw a strain on those sources of gastric life and health, but whether the strain is ever sufficient to lead to pathological effects I am not at present able to offer any definite proof.

Hernia of the stomach at the œsophageal orifice.—At first, when the supports of the diaphragm give way the œsophagus, by its elasticity and expansibility, can meet the demand made on its length by the falling of the diaphragm; but a point comes when it can stretch no further; first the abdominal termination of the œsophagus is drawn within the thorax, then, if that be not sufficient to meet the degree

of descent, a part of the fundus is drawn within the dorsal mesentery of the thorax. Such cases have been recorded by Dr. Rigby and myself[1]; others have been described as diverticula of the œsophagus. Dr. Andrews has also observed this displacement in cases of enteroptosis.

Diverticula of the duodenum.—Up to the end of the second month of development the duodenal loop, as is the case in the lower forms of primates throughout life, is freely suspended by a mesentery which is attached to the spine at the radix mesenterica. The head of the pancreas lies within its mesentery; the gastro-hepatic omentum, which fixes the right aspect of the duodenal mesentery to the liver, contains the common bile-duct and part of the head of the pancreas. After the second month of development the right aspect of the duodenum, with its mesentery, the head of the pancreas, and the lower part of the gastro-hepatic omentum, become gradually bound to the vena cava and hilum of the right kidney by loose connective tissue. The bond is never a firm one. With each respiratory movement of the liver the duodenum and head of the pancreas yield to the hepatic pressure unless held in position by a well established resistance of the abdominal wall. In ptosis of the liver the head of the pancreas may lie just above the brim of the pelvis and in such cases a well-marked diverticulum will be found in the inner wall of the duodenum just above the entrance of the common bile-duct (see Fig. 13). The bile-duct is stoutly coated and inelastic; its upper end is fixed by the gastro-hepatic omentum to the diaphragm; its lower end perforates very obliquely the weak, yielding inner wall of the duodenum. When the pressure of the falling liver causes the duodenum and pancreas to descend, thus throwing a strain on the common bile-duct, the weakest part yields and that is the area of the inner wall of the duodenum to which the duct is bound. The inner wall of the duodenum is thus pulled upwards into a tent-shaped diverticulum of the kind to which Dr. H. D. Rolleston has called attention.

[1] Proceedings of the Anatomical Society of Great Britain and Ireland, November, 1901.

The Lettsomian Lectures

ON

THE CONDITIONS WHICH MODIFY THE CHARACTERS OF INFLAMMATIONS OF THE SKIN, AND THEIR INFLUENCE ON TREATMENT.

Delivered before the Medical Society of London

BY H. RADCLIFFE CROCKER, M.D., F.R.C.P. LOND.,

PHYSICIAN TO THE SKIN DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL.

LECTURE II.[1]

Delivered on March 2nd.

MR. PRESIDENT AND FELLOWS,—In my previous lecture I discussed the modifying influences of different local conditions, chiefly microbic, either singly or in combination, on the production of inflammations of the skin and this, for the sake of clearness, was done from the local standpoint only, quite irrespectively of the individual in whom these processes were going on.

But it is not enough for the microbe to meet the man; the result depends quite as much on the kind of man as on the kind of microbe. It is a familiar fact that for the microbe to flourish or even to get such a hold as will enable it to breed at all, there must be favourable conditions of the soil which we can sometimes recognise while in other cases they escape us. Thus persons who are exposed to the exanthemata frequently escape the disease at one time, even when the exposure has been frequent or prolonged, while at another very slight exposure may determine a severe attack. For example, a lady nursed her daughter through scarlet fever in October and went away with her to the seaside during convalescence. On her return in December the mother put on a dress which she had worn whilst nursing the girl in the early stage of the disease and contracted scarlet fever in a typical, but not severe, form. Here there was no lowered vitality to make her vulnerable and we can only state the fact without explanation that she was susceptible at one time and not at the other. Very similar coincidences occur in the microbic skin diseases that we have been discussing, but at the same time there are some factors traceable in the individual which are worthy of attention. Even in such a simple matter as age there are often striking differences; thus, the microbes staphylococcus aureus and streptococcus pyogenes, which may be considered together for clinical purposes, easily infect children and suppurations therefore are often induced in them, which may be very free and tend to get deep and to infect the general system if not checked in an early stage. In a newly-born infant, if the surface layers only are invaded, the lesion is generally a bulla, while in older children impetigo contagiosa occurs in vesicular or pustular lesions; adults either resist the infection altogether or the eruption is often only an excoriation in appearance and I cannot recall in the whole of my experience a typical impetigo contagiosa in a very old person. Ecthymatous sores may, however, occur in severely itching diseases such as pediculosis corporis, but even then they are seldom abundant though sometimes deep and severe. As regards boils and carbuncles old people cannot claim exemption, and carbuncles are more likely to spread in them to a dangerous extent. When suppuration does occur in old people, the step from suppuration to gangrene may be a short one; fortunately, therefore, most of the forms of suppurative dermatitis in the list given in my first lecture are uncommon with them. Gangrene without previous suppuration is also apt to occur in the elderly; of this herpes zoster, especially of the ophthalmic division of the fifth nerve, affords frequent examples.

At the other end of the chain infants and children under three years of age are particularly liable to multiple patches of gangrene which may supervene upon any pustular eruption of which the most common is varicella, but I have also seen it develop on an apparently harmless miliaria. This liability appears to cease after the child is three years old. It is not known for certain what bacillus produces this form of gangrene, but the bacillus pyocyaneus appears to be the most probable one. Local bactericide injections check its extension and should be employed at an early stage or life will be endangered. Of the other deeper lesions, boils occur at any age but carbuncles are rare in the young, fairly common in middle age, and more common still in old age. As is well known boils and carbuncles frequently occur where other depressing influences are present, such as diabetes mellitus or sewer-gas poisoning, while in perhaps the majority there is no special departure from health unless from their size or number their own toxins excite septic febrile disturbance. Glycosuria is also a strongly predisposing influence to gangrene, both of small superficial areas and of whole limbs. Once successfully implanted the evolution of boils is not stopped when the malign toxic influences are removed, though it is not infrequent to find them in abeyance even for months and then to recommence with another succession. The only explanation which I can offer of this is the latency of germs—a frequent phenomenon in microbic diseases and a source of perplexity and disappointment to both medical attendant and patient; too often it makes the latter unjustly dissatisfied with his medical adviser. Some of the recrudescences are probably due to the revivifying influence of toxin absorption from the intestine or other viscera, but not all of them, and it is often not possible to do more than to make a probable guess. At the same time we should not accept too readily these theoretical explanations and should investigate carefully all the bearings of the case. Quite recently I saw a patient who had boils in the winter but not in the summer. On investigation I found that he took much more exercise and lived out of town in the summer, while in winter he had to keep very closely to his profession. Further inquiry showed that there was a strong probability of sewer-gas poisoning in his private house, which he occupied very little in the summer, and the real factor therefore was the change of residence.

Seborrhœic inflammations are less frequent in advanced life and cease altogether in old people. Old age, on the other hand, is a strong predisposing condition for eczema, especially in its drier forms. What appears at first to be a

[1] Lecture I. was delivered on Feb. 16th and was published in THE LANCET of Feb. 21st, 1903, p. 491, and Lecture III. will be delivered on March 16th

very trivial inflammation often spreads very rapidly over a senile skin. This is partly due to the degeneration of the senile skin with its dryness, its feeble innervation, and its defective nutrition generally; and I am strongly disposed to think that secondary microbic invasion plays an important part in these cases, though its most striking feature of extreme pruritus out of proportion to the apparent amount of dermatitis is due to the degenerated innervation. Still more important than the senile skin is the senile condition of the viscera with the consequent deficient kidney and liver action and faulty elimination of waste products as well as the imperfect assimilation of food. It is these factors which are, in my opinion, chiefly responsible for the meagre success with which we often have to be content in very old people. Nevertheless we need not fold our hands over our patient, for treatment often meets with an unexpectedly good effect when we scarcely anticipate it. The indication is to wash out the kidneys and alimentary canal with weak alkaline waters, such as Contrexéville or simple hot water, preferably distilled, to keep the lower bowel empty, and, in short, to get as much out of the worn-out organs as medical resources permit.

There are other tissue proclivities, both congenital and acquired. The congenitally dry skin is one of these. When the patient has pronounced ichthyosis it is readily enough recognised, but when it is so slight as to be little more than dryness and perhaps slight roughness in parts it is easily overlooked, as the patient having always had it regards it as a normal condition and never thinks of calling attention to it. The clue to these mild forms is that the eczema of which he complains is always worse in the cold weather. The first touch of frost often excites it and the skin has a special tendency to chap and to crack; there is pityriasis of the scalp and the hair is thin, dry, and lustreless and the other evidences of a dry skin are readily found if looked for. It suggests a treatment in which the local applications should be of an oily or greasy character, or at least if lotions are applied they should contain a liberal proportion of glycerine. The administration of thyroid extract is sometimes advantageous, for though not producing a definite cure of the ichthyotic condition, it ameliorates it for the time being, and thus materially facilitates the cure of the eczema. The opposite condition of hyperidrosis is also a predisposing condition to certain forms of dermatitis. On the palms and soles it is a frequent factor of a form of eczema which leads to great hypertrophy of the horny layers and then, of course, the hyperidrosis ceases. Several papular and papulo-vesicular eruptions may also be excited when an excessive perspiration is checked by cold, such as miliaria of infants and adults and a papulo-squamous eruption generally considered to be a form of eczema[2] but really quite distinct. Acute miliary lichen planus may also supervene under similar conditions.

Another congenital condition, though less easily demonstrable, is a liability to eczema on small provocation, either from without or within, possessed by many patients. Although eczema is not actually hereditary it is highly probable that a similarity of skin which will render the patient vulnerable is transmitted. The old French writers expressed this by saying that the patient had a dartrous diathesis, but as that term assumed a great deal while it explained nothing it has justly fallen into disuse. At the same time, like many another old theory, it expressed a certain amount of truth which it behoves us to recognise. In practice all we can do is to use such prophylactic measures as lie in our power in the direction of the removal of sources of irritation, either external or internal, and in young people to advise the parents as to their future career, the life of a sailor, for instance, being distinctly contra-indicated. When the disease is actually present the treatment would not be modified by our knowledge of this hereditary predisposition, but of course it would affect our prognosis of a definite cure. In psoriasis the hereditary element is more pronounced and if one parent is liable to psoriasis should there be several children one at least is almost sure to get it, but it is rare for the majority to have it, though in one family in my experience out of seven members two sisters and three brothers were victims of the disease. I should define the heredity as a tissue proclivity to grow the special microbe which, in my opinion, produces the eruption.

What we have to call "idiosyncrasy," whether congenital or acquired, exercises an important influence on the character of the eruption and its mode of evolution and in recurring eruptions, the constant character of this influence is very striking. Thus, erythema multiforme, which, as its name signifies, exhibits great diversity in the clinical features of the eruption in different persons, in its recurrences in any one individual shows remarkable constancy. If the first attack be nodular, papular or circinate, or whatever shape it may take, subsequent attacks will have the same characteristics. The case of a man with an unusual form of erythema iris illustrates this well. The disease is much less frequently seen on the palms than on the backs of the hands and the bullous forms are rare; yet in this man, in three successive annual attacks, the disease always began on the palms and always took a bullous form.[3] The same fact is illustrated in the plate of psoriasis; in this disease the face and the palms are comparatively rarely attacked, but in one patient the face and in the other the palms and soles were invariably the parts first invaded. Again, a psoriatic or eczematous patient in whom pityriasis rubra has once supervened is extremely likely to have this rather rare disease recur whenever the original eruption attacks him afresh, and here the knowledge of this can be turned to practical account by at once vigorously treating the primary affection and thus averting a very dangerous complication.

TOXIN ABSORPTION.

A very powerful factor, in my opinion, in the production of eruptions is the formation in the viscera and absorption from them of toxins most frequently of intestinal origin. It is true that we can rarely in any particular case produce conclusive evidence that this absorption has caused the disease, but from time to time cases arise in which the probability is very strong that such is the case and there is an accumulation of facts which point in this direction. Granting that intestinal toxins produce eruptions, what forms do they take? The most frequent are varieties of erythema (morbilliform, scarlatiniform, or patchy), urticaria, eczema, and some forms of pemphigus. Here is an example. A boy, 10 years of age, was taken ill with febrile symptoms, some suffusion of the eyes, and a little coryza, followed by a copious eruption of urticarial wheals in corymbose clusters scattered over the trunk and to a less extent on the limbs; on the next day this disappeared and an erythematous eruption of distinctly morbilliform character came out all over the body and the question of measles arose. I decided against this from the mode of development and from the absence of corroborative evidence (Koplik's spots were then not known), and the bowels being confined salines and enemata were given and large and offensive scybala were evacuated. The rash rapidly subsided and the boy quickly returned to health. Other children in the house remained well. The following case of dermatitis herpetiformis was probably of similar origin. A patient, aged 78 years, in good health for his age, had an attack of gastric disturbance with diarrhœa, of which he did not know the cause. A few days later he began to have groups of flat erythematous papules on the forearms and abdomen, on which vesicles and bullæ developed a few days later and a typical dermatitis herpetiformis was produced. The almost daily evolution of fresh eruptive elements led to exhaustion and death in seven weeks from the onset.

Sudden chills often appear to be, and I believe are, the exciting cause of eruptions of various kinds, erythematous, urticarial, eczematous, pityriasis rubra, and others, the variety depending more upon the patient than upon the cause. They have a widespread usually symmetrical distribution either from the onset or they soon acquire it. In some cases the patient is quite well before the chill, but more frequently there is a predisposing cause already present. Here is an instance. A lady, 26 years of age, seven months pregnant, rode outside an omnibus. The same night she had shiverings, followed the next day by a scarlatiniform erythematous eruption on the upper part of the chest, the back of the wrists, the trunk, and the inner side of the thighs. It spread up to the face and down to the legs and was most marked at the knees, and in 48 hours from the onset it was universal. The temperature was at first 99·4° F., but it reached 101·4° with congested and swollen fauces and enlarged glands behind the sterno-mastoid. Scarlet fever was diagnosed by a physician to a fever hospital, but she had not

[2] Author's Atlas, Plate xi.; there described as of seborrhœic origin, but further experience suggests its being a sweat eruption.

[3] Plate iii., Fig. 1, of the author's Atlas shows one such attack of bullous erythema iris. Plate xxviii., Fig. 1, shows a psoriasis attacking the face in a diffuse form and Figs. 2 and 3 the primary involvement of the palm and sole.

the strawberry tongue, she did not look ill, and she was quite lively, and I came to the conclusion that it was not scarlet fever—not from the morphology of the eruption which was typically scarlatinal, but from the mode of development and the fact of her general condition being good instead of her being profoundly ill, as she would have been in scarlet fever with that amount and intensity of eruption. Further, I had the advantage of knowing that she had had two previous attacks in connexion with pregnancy, in one of which I saw her just after her confinement, when the condition of the lochia left little doubt that the rash was of septic origin; also the distribution and development were the same as in the third attack. Her rapid recovery confirmed this opinion. In another case a policeman contracted a severe chill; this was followed by an erythematous eruption on the chest which developed into a universal pityriasis rubra. It had a prolonged course of several months but the patient finally recovered. It is evident, therefore, that the same cause will produce totally different eruptions in different persons and further examples of yet other diseases in illustration might be given, but the above are sufficient for our purpose. For a time there was a tendency to scoff at chills as an exciting cause of eruption and many other diseases—pneumonia, for instance—because it was a bacterial disease; but although our predecessors had not the advantage which the knowledge of modern pathology gives they were very close observers of facts and these remain true though we give them a different explanation. In my opinion, the most plausible explanation is that when the surface of the body is chilled there is a sudden and extensive contraction of the blood-vessels of the skin, followed by wide dilatation, and during the latter there is a great withdrawal of blood often laden with toxin products from the intestine most frequently, but also from other viscera such as the post-partum uterus, the liver in certain states, &c. Many of these eruptions from chills being, therefore, really immediately due to toxin absorption the moral is to remove as far as possible the conditions which favour the production of toxins, such as constipation and all possible sources of septicism.

In offering this explanation I do not wish to underrate the part played by the nervous system in such cases and, indeed, it is probable that in many diseases—urticaria, for example—the toxins act through the nervous system. I can adduce an example of even more direct action. An elderly lady, slightly gouty and distinctly asthmatic, suffered from eczema which began in a slightly exuding patch on the right leg and was followed by the development of a good number of patches on the limbs and trunk consisting of roundish groups of papules and papulo-vesicles which were somewhat rebellious to treatment but at last yielded and only the original patch remained owing to an unsuitable application having revived its activity. Whilst in this condition she fell downstairs and was, of course, much shaken; beyond a sprained ankle she was not otherwise injured, but within three days a large number of lesions of a totally different character appeared on the trunk and limbs, especially inflamed under the breasts and groins. This new eruption began as papules of the size of hemp-seed with scaly apex which enlarged peripherally into scaly discs of the size of a shilling with a central adherent crust, but there was no discharge unless the crust was rudely removed. Here, then, a nerve shock made a complete change in the eruption—though even in this case a toxin absorption from the intestine could be invoked with a fair show of probability; and in the following somewhat similar case intestinal disorder was actually produced by a fall. A carman was thrown from his seat to the ground, a distance of about 12 feet. He was, of course, much shaken but no definite lesion was produced; two days later he vomited repeatedly without apparent cause and was very constipated, which was not the case before the accident. Within a week of the fall he had an eczematous outbreak on the scrotum, penis, umbilicus, and forearms, quite symmetrical, in some parts exuding, in others dry; on the thighs there were patches of erythema of the size of the hand, well defined and not of the eczematous character of the rest of the eruption. He got well rapidly with saline aperients and a calamine lotion.

Such cases as these illustrate some of the great difficulties which we encounter in endeavouring to unravel the etiology of so many inflammatory eruptions. The pathogeny of an eruption is not necessarily the same in different individuals and the problem is still more perplexing, even in the same individual, in successive attacks; while the eruption has the same mode of onset and character the circumstances which excited it may be quite different. Take such a disease as psoriasis; it is seen most frequently in early life; 72 per cent. of the cases occur for the first time under 30 years of age, and the numbers below 12 years, between 12 and 20 and between 20 and 30 years, are practically equal—viz., about 24 per cent. At these ages the disease generally attacks apparently healthy persons and is most likely primarily microbic, at first from without and afterwards from within, and the general health is seldom a factor. When the disease occurs for the first time between the ages of 30 and 50 years—and not more than 5 per cent. begin after that age—defective assimilation is frequently a determining cause and may lead up to gouty manifestations. A still more important factor is rheumatoid arthritis, by many considered to be of septic origin, and this disease strongly predisposes to psoriasis. Thus, then, in the early cases the microbe was everything and produced the disease when the powers of resistance of the organism were presumably at their highest; while in the cases of late commencement either the microbe could not obtain entrance or it was powerless until the soil was modified by diseased conditions of the body itself. You must bear in mind that in all the above cases I am referring exclusively to the primary attack. Recurrences may come on at any age and it is seldom possible to account for any one of them.

THE NERVOUS SYSTEM.

The influence of the nervous system on diseases of the skin is important, but for the most part indirect, with the sole exception of herpes zoster. Given any particular nerve lesion you can never say that you will certainly get a corresponding skin disease. In herpes zoster, as is well known, inflammation of the posterior ganglion through which the nerves pass which supply the skin area affected is nearly always present, but peripheral nerve irritation or inflammation of the trunk of a nerve may also produce it, but it is probable that even in these cases the ganglion is secondarily affected. Quite recently I saw a bricklayer, aged 70 years, who during cold weather had leaned with his left hand on some brickwork to steady himself while working with the other hand; the left hand became numbed from cold, and a day or two later a violent attack of herpes zoster appeared on the palm of that hand as well as on the back and extended up the forearm and half way up the arm, with gangrenous ulceration in some parts. Herpes has also been found in connexion with diseases of the posterior columns of the cord and in the posterior nerve roots above the ganglion. In short, while no doubt inflammation of the posterior ganglion is by far the most common cause of zoster, it may arise from any part of the nerve chain from the posterior column of the cord to the nerve periphery.

Apart from shingles although numerous cases of lesions of the nervous system associated with skin lesions are on record, yet the results are so diverse, even when the nerve lesion is apparently identical, that the nervous influence must be indirect and require some other exciting factor. Moreover, in by far the majority of cases of lesions of the nervous system there is no skin eruption at all. Nevertheless, there must be innervation present or no inflammation of the skin will be produced. This is well illustrated in the following cases of small-pox. In a case recorded by Bouilly and Matthieu intercurrent small-pox occurred in a patient after section of the sciatic nerve and the non-innervated limb remained free from eruption. On the other hand, Chevallier saw a case of small-pox in a hemiplegic patient in whom the eruption was confluent and hæmorrhagic on the incompletely paralysed side and discrete and normal on the healthy side. In a hemiplegic observed by Jamin de St. Just scarlet fever supervened; for two days the eruption was limited to the healthy side and when it did attack the paralysed side it was pale and fugacious. A few years ago my colleague, Mr. Christopher Heath, excised the right elbow of a young man; when he was nearly convalescent he went home to visit some friends and shortly afterwards a vesicular eruption developed on the hand and forearm of the limb operated on, followed in a day or two by a more generalised eruption, and when I was asked to see him I found that he had varicella and that the eruption was most abundant on the hand and forearm of the side operated on. The explanation of these apparently contradictory cases is not so difficult as it appears at first sight. In the first case there was no innervation and therefore no eruption; in the case of scarlet fever, with slight and fugacious eruption, there was a little vaso-motor influence left, but no cerebral; in the hemiplegic with small-pox cerebral influence was abolished while the sympathetic was for the most part undamaged and

unrestrained and the eruption was therefore confluent; in hæmorrhagic small-pox both cerebral and sympathetic influences are paralysed by the poison and there is no eruption but only extravasation from the walls of the non-innervated vessels giving way. In the varicella case the nervous supply was slightly damaged but not destroyed and the eruption, instead of developing in the usual positions, came first at the place of the least resistance. The outcome of this, therefore, is that the cerebral influence is a controlling one over the vaso motor centres and that the functional preservation of the latter are essential factors in the production of inflammation of the skin.

In lesions of the spinal cord bullous and vesicular eruptions are the most frequent as a sequence of inflammatory lesions of the posterior column. Less often ulcers and gangrene and vaso-motor troubles of an erythematous or urticarial character supervene, but there is no certainty about it, and even in locomotor ataxy eruptions are much more frequently absent than present. Bullous eruptions may arise where there is damaged innervation in two ways, either from inflammation of any part of the sensory nerve path from the centre to the periphery or from the non-protection from injuries of the part in which the innervation has been cut off. This is well seen in leprosy; in the early stage of the nerve form, when there is inflammation of the nerve set up by the lepra bacilli, bullæ often form on the fingers and toes in the area of distribution of the neuritis associated with shooting pains. They are spontaneous, small, and numerous, and the surface is painful. In the late stage of the same disease, when the nerve is utterly destroyed by the pressure of lepra products on the nerve fibres, the bullæ are large and solitary and appear on the non-innervated area after slight injury or exposure to cold or heat of which the patient is usually unconscious, as the part is anæsthetic. When the nerve interference is partial from an injury ulceration follows the bullæ and sometimes there is suppuration like a whitlow at the commencement.

When we consider the influence of the nervous system on the distribution of eruptions we find it rises to the highest importance. Examples of many inflammatory eruptions such as zoster, eczema, and lichen planus occur parallel to the axis of the limb with a more or less linear arrangement, but it is more frequent in some congenital affections such as ichthyosis hystrix, including the linear verrucose nævi, glossy skin, &c. In a case under the care of Brouardel a man, 60 years of age, had a contusion of the shoulder followed by shooting pains down the arm and in 40 hours an eczema developed limited to the radial nerve distribution and became rapidly confluent, but got well in a fortnight.

Of far greater practical importance is the influence of the nervous system in the distribution of eruptions in the vaso-motor areas. Such is that of the bust and arm distribution which is most clearly demonstrated in xerodermia pigmentosa in which it is very constant, rarely extending lower than the level of the upper portion of the sternum in front and of the nucha behind, on the upper limbs from the middle of the back of the arm behind, sloping downwards and forwards almost to the flexure of the elbow in front, while it covers the whole forearm and the back of the hand. This distribution is often seen in acute eczemas of the upper part of the body and for some time may be confined within these limits, though it will sooner or later spread beyond them if it is not efficiently treated. The recognition of this arrangement may often be turned to practical account in cases, not infrequent, in which the inflammation recurs again and again without apparent cause. The centre for this distribution can be got at through the cervical enlargement and I have found that counter-irritation over it—preferably by a piece of mustard leaf, though other counter-irritants will do,—has a marked controlling influence, if applied early, in sometimes preventing, and generally diminishing, the intensity of the recurrence of the accompanying pruritus. The latter symptom, which often rises to its highest intensity, and is quite maddening sometimes in eczema of the scrotum and neighbourhood, is often conspicuously relieved by similar counter-irritation over the lumbar enlargement which has a similar controlling influence over inflammations of the lower extremities as the cervical enlargement has over those of the upper. In using this method of treatment the best results are obtained when it is used just before or at the very commencement of a recurrence. It should not be used in the declining stage. A smaller area but one affected by several diseases is the centre of each cheek; it is frequently the first affected in lupus erythematosus together, sooner or later, with the bridge of the nose; in acne rosacea, together with the centre of the face—viz., the forehead, nose, and chin; in a few cases eczema also is limited to this region; it can be influenced by counter-irritation over the mastoid on each side.

PREGNANCY.

Pregnancy is responsible for a few eruptions, but the principal and most distinctive one is the so-called "herpes gestationis" which is now acknowledged to be a dermatitis herpetiformis with a special etiology as precisely similar eruptions may occur both in single women and in males. Its general behaviour in relation to pregnancy is interesting. Once it has occurred in relation to this state it is almost sure to recur in every succeeding pregnancy. One of my patients had seven pregnancies in 11 years and it attacked her at each gestation. It tends to begin earlier and earlier in the pregnancy, until sometimes it is the first intimation to the patient of her condition. With exacerbations and remissions it then continues throughout pregnancy and shortly after parturition an attack of explosive violence occurs and then the attacks diminish in severity until they cease altogether in from three to six weeks. Of course, they do not all run this regular course; some begin in the same month of each pregnancy and may stop before parturition and may recur after it, and some begin just after pregnancy. They may also last for a very long time after parturition or may even become chronic or recur without a fresh pregnancy. In one of my cases at the fourth attack the patient was found not to be pregnant but to have cancer of the cervix uteri. The same kind of eruption has even been known to begin independently of pregnancy, to disappear when this occurred and to recur when the menses appeared again, but of course this could not be called a herpes gestationis.

THE INFLUENCE OF SEASONS.

The influence of seasons on eruptions has long been recognised in certain forms of disease, such as erythema multiforme and psoriasis. Both of these diseases show a decided tendency to recur in the spring, but unfortunately they do not restrict their activity to this season and many patients show special idiosyncrasy as to the time for recurrence. Thus in some, the onset of cold weather often excites an outbreak, but whatever the period of eruption may be that time is adhered to for the most part in future attacks. The urticaria of infants also often dies down in the winter and revives in the summer and true prurigo also has a similar tendency though in some cases in this disease the season is reversed. Many other examples might be given, but there is a more interesting class which belongs especially to summer or winter, though in certain circumstances minor attacks may be produced in what may be called their off season.

Hutchinson was the first to call attention to one variety of these cases and Bazin to another. These two varieties are pretty definite in their characters while in many members of the group the characters of the eruption are not so defined and their diagnosis rests rather on their general behaviour than on their morphology. Hutchinson called his first cases "summer prurigo" and there is a type which this title fits fairly well. It is distinguished by commencing in childhood, seldom before eight years of age, and attacks the exposed parts—viz., the face, back of the hands, and wrists—the face being the part principally involved, and it is only in exceptional cases that these limits are exceeded. The primary lesion is a simple one, a flatly convex erythematous papule which soon acquires a central scab from scratching or rubbing, for the pruritus is most intense at the onset and height of the attack. However abundant the eruption, the lesions nearly always remain discrete and this is an important diagnostic point. Unless there are secondary pus inoculation sores, the eruption is particularly dry and rough and suggests the use of ointments, but these in my experience invariably increase the irritation and the patients tell you flatly that they cannot use them. Astringent drying lotions, especially the organic silver salts, give the most relief and enable the patient in a great measure to abstain from scratching and then improvement occurs, unless a fresh outbreak is produced by a direct exposure to the sun or to a bitterly cold wind. A precisely similar eruption may occur in winter in some patients, in these cases the cold winds being the greatest provocative and the sun's rays having less irritant action. The winter cases are much less common than the summer ones, but both the summer and winter

cases continue to be liable to recurrences according to their special peculiarities year after year or several times a year until the patients reach adult age when the liability gradually ceases and it seldom persists after the age of 25 years. The skin from the repeated inflammation is left rather thickened, pallid, and sometimes superficially scarred from the repeated excoriations.

Other forms of this summer eruption are papulo-erythematous, papulo-vesicular, and vesiculo-pustular, but the most common form consists of pale red conical papules with or without a little clear fluid at the apex, which dries up and shells off, leaving minute shallow scars which in the course of time impart a mottled look to the whole face. The distribution, though always predominating on the exposed parts, is less limited than the summer prurigo type. This does not exhaust the varieties in form of these eruptions, but the general behaviour being the same in all enables them to be recognised in spite of their different morphology.

The summer disease first described by Bazin is known by the name of hydroa vacciniformis seu æstivalis. It is fortunately rare, as it produces great and permanent disfigurement and even mutilation of the face and ears, so that in the final cicatricial stage the patient looks as if he had had a severe lupus, as the nostrils and ears are partially destroyed; there may also be extensive scarring of other parts of the face. This disease generally begins in the first three years of life, and nearly all its subjects have their worst attacks almost exclusively in the summer from the direct effect of the sun, but artificial heat and cold winds will sometimes excite it, the eruption breaking out a few hours after exposure and recurring whenever the patient is subjected to the excitant from spring to autumn while he is comparatively free from October to February. The attacks become milder at puberty and generally cease by the time that the patient has grown up. The majority of patients are boys, but girls sometimes suffer from this complaint. The lesions which characterise this disease are vesicles of the size of hemp-seed on a red base which umbilicate and become pustular like small-pox or spread peripherally like a vaccine pustule and finally dry into a crust which falls off in time and leaves a pitted scar. This was the type that Bazin described as hydroa vacciniformis, but these vesicles may crowd together and coalesce into flattish bullæ with a red areola, the fluid portion drying up from the centre to the periphery and forming a superficial or thick scab, in the latter case producing a deep scar, the whole process lasting two or three weeks. The chief seats of the disease are the face, ears, neck, and hands, but the unexposed parts of the limbs may be affected while the trunk is rarely involved.

Unfortunately, as all these recurring eruptions are excited by atmospheric agents, drugs, either internally or externally, have only a palliative influence on each attack of the eruption. All our efforts must therefore be directed to induce the patient not to expose himself to the sun and wind more than can possibly be helped. The whole class are angio-neuroses with a congenital vulnerability of the skin something like that of epidermolysis bullosa, but that requires slight injury such as blows or friction to bring up the bulla.

INGESTA.

With the exception of certain drugs and alcohol few ingesta affect inflammatory eruptions directly. Alcohol dilates the cutaneous capillaries and so increases the congestion and in alcoholics who are also the subjects of psoriasis the disease is often recognisably modified; large livid red patches are produced in which the scales form too rapidly to remain adherent into crusts, though blood-stained inflammatory crusts are sometimes produced by scratching and with the other characters make a distinctive picture indicative of the patient's habits. All forms of dermatitis, especially as regards itching, are no doubt aggravated by anything more than a very moderate use of alcohol in its simplest forms and some patients cannot take it at all, but there is nothing in the aspect of the skin disease alone which shows that the patient exceeds his limit whatever that may happen to be. The effect of wines, beyond what is due to the quantity of alcohol they may contain, is only indirect. In many patients, especially those with a gouty tendency, disorders of the liver and alimentary canal are produced within a few days of taking them with a constancy which leaves no doubt of their being in the relation of cause and effect and they may then produce an aggravation of any eruption to which the patient may be subject.

DRUG ERUPTIONS.

The subject of drug eruptions is too large to enter into in any detail. Although there are a large number of medicaments which are capable of exciting eruptions under certain conditions or in certain persons yet in practice untoward results of this kind are rather rare. With the exception of those produced by bromides or iodides none of these eruptions are distinctive enough to indicate the drug which has produced them, and it is only by the knowledge that the patient has had a particular drug followed by a rash that the cause and effect can be connected. Of these non-distinctive eruptions, various forms of erythema, scarlatiniform, morbilliform, or patchy, are the most frequent, but urticaria and purpura are fairly common and next come vesicular, bullous, and pustular rashes. On all these I need not dwell; the mere enumeration of the drugs which may possibly produce them is too like a catalogue to be interesting or instructive.

With regard to the bromide and iodide eruptions the matter is on a different footing. Although sometimes like each other the agminated forms are quite distinct from all other forms of eruption and a positive diagnosis can generally be made not only when there is no history of these drugs, but even when the history appears to negative such a supposition. Certain general statements may be made as to the circumstances under which they are liable to occur. It is seldom a question of dose; small doses frequently produce an eruption while large ones may be taken with impunity. I know of a lady who took, not by my advice, 80 grains of iodide of potassium three times a day for nearly a year without apparent injury, while the eruption shown in the plate[2] came out after a few five-grain doses. Nevertheless when the system is saturated with the drug, as happens sometimes with bromides with chronic epileptics, a violent eruption sometimes occurs without any warning, especially if there is any check to its rapid elimination. This last is the true cause of nearly all cases in adults, and if a pronounced bromide or iodide eruption occurs after moderate doses of either of these drugs the urine should be tested and the heart examined, for it, or the kidney, or both, are almost certainly at fault. In the case just alluded to, with what looks like a bullous iodide eruption the patient had pronounced albuminuria from the smooth white kidney; so also had the man illustrated by this photograph in whom the diagnosis was made in spite of a denial that iodide had been given—the source of fallacy being that the man had taken a quack blood purifier well known to contain iodide of potassium. In another case where I was asked for a diagnosis the patient had been sent into a small-pox hospital and advanced mitral disease was present and was the determining factor of the eruption. A similar case has been recently recorded in one of the medical journals. Infants are especially liable to the eruptions from quite small doses which are comparatively common since bromides have taken the place of the gum lancet, but even before the teething period it may occur through the maternal milk when the mother is taking the drug. A point which throws one off the scent sometimes is the fact that the outbreak often occurs a week or two after the drug has been stopped, the explanation being that both bromides and iodides are diuretics, and when this action ceases soon after the drug has been stopped there may be still enough circulating in the cutaneous vessels to set up inflammation. Another misleading fact is that these drugs have a special predilection for scar tissue, and I have seen several cases in which the vaccination scars have been the first point of attack and have led to the idea that the vaccination was at fault.

I will not go into detailed descriptions of these eruptions—they are to be found in all the text-books—but I will only emphasise the fact that the most distinctive character of the bromide pustular eruption is the agmination of small pustules on a raised red plateau derived almost entirely from the swelling and proliferation of the prickle-cell layer and it therefore leaves no scar when it disappears unless a deep suppuration has been excited secondarily. Such a lesion is absolutely distinctive.

The pseudo-bullous iodide eruption is also distinctive; it consists of transparent raised lesions like distended but flattened bullæ crowded together in irregular areas; when the supposed bulla is pricked, however, only a small drop of fluid escapes, for the lesion is really a solid œdematous

[2] Plate xxxvi., author's Atlas.

swelling of the rete cells. Besides these characteristic bromide and iodide lesions there are several less distinctive eruptions produced by these drugs—erythema, in some cases like erythema nodosum, urticaria, purpura, of which some cases have been fatal, isolated pustules, true vesicular and bullous eruptions, which are rare, gangrene, and, in the case of iodides, anthracoid and vegetating lesions—the latter are very rare.

Iodide of potassium should not be given to persons suffering from acne rosacea, which is often much aggravated by it, or in cases of bullous eruptions such as pemphigus and dermatitis herpetiformis, as it often greatly increases the severity of the lesions, and I have seen the bullæ become hæmorrhagic and even gangrenous as a consequence.

GOUT.

Perhaps you are surprised that I have not given gout a primary position as an etiological modifying factor of dermatitis. I have purposely not done so for several reasons. While I do not doubt that gouty patients are easily predisposed to, or easily get, eczema and to a less extent some other forms of dermatitis, such as some forms of psoriasis which commence in middle life, some cases of pityriasis rubra, and some of the erythemata, there is no doubt that its influence has been overrated in the past by the profession, so much so that the public, who are usually a generation behind us, regard eczema and gout as almost synonymous terms and I am not infrequently asked by anxious mothers of eczematous infants in arms whether I think they have gout in their systems. The fact is, a gouty person is one who is vulnerable to inflammations of any or all of his tissues, especially of his mucous and synovial membranes and his skin, but it is not possible to decide solely from the kind of dermatitis present whether the patient is gouty or not, and it is sound practice only to infer it when there is other evidence in himself or in his family history. No doubt if there is such evidence it is wise and right to treat such a patient by diet and medicines calculated to combat his gouty tendency, but we must all confess how often we fail to get a satisfactory result as far as the skin is concerned after we have done our best to fulfil the supposed indications.

Much more frequently we find in eczematous patients in middle life and beyond it, that a condition of faulty assimilation of food exists from imperfect liver action, dyspepsia of various kinds, constipation in women and its train of evil consequences, and when there is constipation you do not know where you are until you have got rid of it, at all events for a time. These conditions, too, lead up to gout if allowed to go on unchecked and we must endeavour to modify the patient's mode of living as regards eating, drinking, and exercise. These are, however, to practitioners like yourselves familiar truisms and I will not dwell on them further but only ask you not to be eager to see gout in every case of eczema unless the general evidence is decidedly corroborative and even then the real factor is often the disordered condition of the alimentary canal which is so commonly associated with the gouty state, and probably many symptoms which we ascribe to uric acid are often really due to the absorption of toxins or ptomaines from the catarrhal condition of the intestinal canal. Intestinal disinfectants, therefore, such as salol are indicated, together with such a dietary as will not excite fresh catarrh and fermentation in the food.

While I have not yet exhausted the subject of etiology as it influences the form and course of inflammations of the skin—the subject of vaccination among others being untouched—I have come to the end of my time and I fear of your patience and will therefore pass on to the discussion of treatment in my next lecture.

ROYAL INSTITUTION.—The Friday evening discourse at the Royal Institution on Feb. 27th was delivered by Dr. Adolf Liebmann, the subject being Perfumes, Natural and Artificial. Considerable reference was made to the success of chemical methods in the manufacture of essential oils identical with those upon which the fragrance of some plants depends, the artificial products being in an extraordinary degree cheaper than some of the natural ones. Vanilline, for instance, an odorous crystalline substance contained in the vanilla bean, in 1876 was worth about £150 a pound, but at present the price is only about £1 10*s*.

THE RISE OF BLOOD PRESSURE IN LATER LIFE.[1]

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WHEN in the third quarter of the nineteenth century I entered the profession of medicine physicians were much occupied in the deadhouse, contemplating the ruins of mortality. Surrounded by the last dilapidations of the human frame they laid bare almost daily in its inward parts some previously unknown wreck, blight, or decay. In the wards, meanwhile, before Darwin's theory had changed the habit of thought, the mind of the physician was coloured by notions of the fixity of kinds; he was apt to attribute a certain fixity even to the species of disease, especially to those kinds which, as the phrase ran, were organic rather than functional. Functional diseases made no appearance in the deadhouse; indeed, many of the acute diseases had proved, in recent experience, to be, if often violent, yet temporary oscillations, tending, if let alone, to recovery: the end of chronic visceral disease, however, seemed to be inevitable death in derision of drugs. Thus it happened that to organic diseases, too rigidly conceived as entities, names derived not from original causation or clinical character but from the ultimate forms of destruction became attached; and as a student I well remember how one distinguished teacher and another would displaya shrivelled kidney or liver, a distorted heart, or a softened brain, and ask disdainfully of what use medicines could be for such degradations, even in their earlier stages; how organs with such proclivities were to be converted by prescriptions? Not more than fifteen years ago I said to a late physician, one of the ablest of his generation, "I am sick of diseases, I want to know origins and processes." We were walking together and he, stopping, turned upon me and exclaimed, as if new light were breaking in, "Processes? Ah, processes! Yes, the pathology of processes is the work of the future." I had urged, for example, that bloated or withered kidneys are not engendered of vice in the kidneys themselves but of the prolonged, uniform, symmetrical action upon both of them of some unknown poison or poisons circulating in the blood; an influence, furthermore, by no means confined to these organs but visible in widespread effect elsewhere in the body: that to speak of such cases as cases of kidney disease is therefore misleading; and so on of other post-mortem wreckage. The discovery of such utter mischief after death is matter not for our despair but for our disgrace; it is not a declaration of the impotence of therapeutics but black evidence of our blindness and negligence in the past history of the individual. If in the pathology of the dead there remains much to be discovered, we have nevertheless made great way in it; the pathology of the living is hardly begun.

These arguments may seem to savour of platitude, but I think even to-day that they have not lost their application; that you will not find it hard to carry your minds back so far as to realise the change—the transformation—which is passing over medicine at this time; and that you may find it still less difficult to accept at my hands some attempt to study disease at its sources rather than at the term when its work is done.

To my friendship with the late Dr. Mahomed I owe much of my conviction of the clinical value of the study of arterial pressures, and a few years later I was encouraged and aided in this study by the late Professor Roy. Thirty years ago physicians were putting the sphygmograph aside as "of no use in diagnosis;" but, as I have said, physicians were then too much ruled by the statical conceptions of the deadhouse. They demanded of the sphygmograph that which it cannot directly indicate—namely, the site, form, or even the very existence of particular local lesions in the heart. Yet Mahomed, Sanderson, Galabin, and others—to speak only of English physicians—testified even then to its capacity of exhibiting, within limits, the dynamical conditions of the circulation, the kind and distribution of work done, which, after all, is the chief care of the physician. And how

[1] A paper read before the Royal Medical and Chirurgical Society on Jan. 13th, 1903. The substance of this paper was contained in my Hunterian Lecture for 1896 and in one of my Lane Lectures in 1898.

imperfectly we had availed ourselves of this capacity of the instrument we may learn from the remarkable treatise on "The Pulse" published but a few months ago by Dr. James Mackenzie. Unfortunately the sphygmograph, valuable as it is, when handled by those who are well aware of its limits, in the record of modes, forms, and distributions of pressure, cannot measure positive pressures. For many years, therefore, until lately when pressure gauges or sphygmometers of some trustworthiness were put into our hands,[2] I have had to compare arterial pressures as best I could with the practised and attentive finger and to go without units and records. Thus, unsupported by permanent numerical computations, I found it a difficult task to convince my brethren of the importance even of approximate estimates.

Arterial pressures vary very widely. If I lift a chair from the ground my arterial pressure may rise 20 per cent. and fall again as rapidly as I come to rest. During the use of the sphygmometer, if the patient be not cautioned against contracting his muscles—if, for instance, he be seated in a cramped position—the pressure may fluctuate considerably. On a certain occasion I observed a high pressure in a patient in whom a high rate was not anticipated. No fault was found in the parts or arrangements of the instrument, and a second inflation revealed a still exorbitant though a lower rate; a third but a few minutes later registered an ordinary rate of about 120 mm. Hg, and remained steady about this figure. The previous excess I should still have attributed to some experimental fallacy, had not the patient, as I put the instrument aside, said to me that he had feared from it a violent electric shock, such as one which many years before at a fair had put him in an agony which he had never forgotten. As the shock did not occur he was reassured, and the pressure fell. In patients who enter upon a consultation with acute anxiety of mind the pressure at first is often excessive. When close accuracy is of importance it is well then to take two observations; one as the patient undresses, another, after all other physical examination, before he puts on his coat. The large majority of my observations are taken upon the patient seated easily at my table; it is better to keep to a uniform method, and in private practice this position is more convenient than recumbency. Observations on patients in bed rule rather lower, but in my practice they have been comparatively few.

With Hill and Barnard's sphygmometer the pressures of adults vary from 95 to 105 mm. Hg in temperate young men much occupied with athletic exercises, to 250 mm. Hg (the highest figure in the scale) in disease,—as, for example, in Bright's disease.[3] Between these extremes every degree of variation may be found. I often apply the instrument in cases of life insurance, and in healthy men in middle life it should not record more than 120 mm Hg. I have never applied it to a healthy woman nor to a child, but by the finger I have often noted high arterial pressure in children.

In sufferers from arterio-sclerosis—I use the name arterio-sclerosis loosely for present convenience—exorbitant pressures are often but by no means constantly found. Between disease of the arterial tree and blood pressure there is no direct relation; in arterial disease, even in the extreme degree of it, normal or relatively low pressures are commonly observed; but I often notice that in cases of arterial degeneration the reading extends uniformly over a wider range of the scale—say, over 15 or 20 units, in which cases I record the mean figure and the extremes. In denying that elevation of blood pressure depends directly upon arterio-sclerosis I have stood alone for some years, against the high authority of von Basch and many others; but I think that some recent observers now admit the validity of my contradiction, and the matter is one of cardinal importance. So far as intermittent observations are to be trusted, I repeat that pressure may be, and often is, low throughout the course of arterial degeneration; for, again, having been high, it may fall; though, of course, in some elderly persons with arterial decay occasional transient attacks of high pressure, such as occur at times in all of us, may be observed. I need not add that a considerable and persistent fall late in a case, a fall not a result of treatment and not coincident with general amelioration, usually signifies heart failure and presages death within a few months; for it is remarkable how long high pressures are maintained, even when the dilated and overwrought heart is labouring towards the end of its day. When the subject of arterio-sclerosis begins to be short of breath he has entered upon the last stage of his pilgrimage.

If, then, arterial degeneration be a *vera causa* of elevation of blood pressure, its effects may be and often are so modified by incidental and coöperative conditions as to be negligible. In many cases of arterio-sclerosis in which the blood pressures are not high, to the best of our knowledge they had never been high. Conversely, however, high blood pressures cannot long continue without straining the vessels; and I suggest that in elderly persons, in whom taint of lead, of syphilis, of alcohol, or other alien infection is set aside, and kidney disease also excluded, arterio-sclerosis be divided into two kinds; one the result of persistent high blood pressure, the other the result of some more intimate causes, perhaps some unknown poison, or the tooth of time. It is very difficult in arterial diseases to find distinctive histological marks of kind, even in a kind so distinct as the syphilitic; the characters seem to depend more upon the rate than upon the kind of the change. But I think that what I am wont, speaking clinically of the radial and brachial, to call the "leathery" vessel is suggestive of prolonged high pressure, persistent or past. The leathery vessel occurs in two forms—as the narrow and wiry and the voluminous vessel, the former being the more difficult condition to cure. Fulness of an artery is, of course, no indication of high pressure. The quality of the arterial coats is more easily felt in the brachial artery, on semi-flexion of the elbow; but the volume of the brachial may be normal or excessive when the radial is contracted. A certain degree of sclerosis does not render an artery incapable of response to vaso-motor influences.

The leathery artery sometimes becomes calcareous, or is associated with calcified vessels elsewhere, as, for example, in the brain; but when calcification is a prominent and comparatively early feature in the superficial arteries pressures are apt to be moderate or even low. In the so-called "ipecacuanha radial" high blood pressure is by no means the rule; and as high pressure is not the rule in these cases so apoplexy is not the common event of them. Old persons with very calcareous and often grotesquely tortuous arteries, but with low pressures, are to be found abundantly in every workhouse or asylum where work is nominal and diet spare. They live long and die of an atrophy. Thus softening of the brain and gradual or rapid arterial obstructions occur in the group; but cerebral hæmorrhage may be called rare in them. In the wealthier classes these patients are found rather among the women, who are less addicted to high living.

Under conditions of high arterial pressure, on the other hand, of whatsoever causation, apoplexy is frequent; apoplexy, uræmia, and outworn heart account for the end of most of these patients. Yet it has been a matter of surprise to me to see that very high pressure may be maintained, as it would seem, even for years, without much more apparent deterioration to the arterial tree than time of life might account for. I come here to-night, however, to urge an earlier recognition of such rising pressures, and the timely use of therapeutical means to prevent the strain and break-up of the circulatory system. Herein, however, is an initial difficulty, that the subject of high pressure may not soon feel ill; nay, a steady maintenance of high pressure in the brain may conduce for a while to a sense of vivacity and endurance. The heart has grown up to the work; and let me repeat my opinion, though now necessarily without argument, that the arteries hypertrophy likewise in the muscular coat, so that until these compensating growths in heart and artery dwindle or deteriorate, usually after the fibroid form, the patient may believe all to be well with him and may not seek the physician till considerable mischief is done. Not infrequently, however, such persons come before us in an early stage of rising pressure, by the

[2] My own observations have been taken with von Basch's instrument and Hill and Barnard's; I have obtained better results with the latter instrument; Dr. Oliver's sphygmometer is well spoken of, but as yet I have no experience of it; it has seemed to me better to keep to one and the same instrument. Von Basch's instrument, or at any rate that one which I possess, registers 20 mm. Hg above Hill and Barnard's, and thus I have been led occasionally to make false entries in my notes (e.g., Practitioner, January, 1902, p. 7, "120 to 125" should read *95 to 100*.

[3] On the day when these words were written I found maximum pressures of from 230 to 250 mm. Hg in a man, aged 65 years, whose arteries were yet fairly healthy, and in whom were no symptoms of renal disease. He complained of slight vertiginous attacks, lassitude, melancholy, and some loss of flesh.

chance of some intercurrent disorder, or on the prompting of some vague discomforts, such as fatigue and low spirits.

Let us take such a case, say, in a patient, 50 years of age, a professional man, perhaps a merchant or a student who lives a sedentary life but lives well—for mental work and business cares create a desire even for more and richer food than is excited by bodily exercise in the fresh air; though they do far less for excretion. His sleep becomes disturbed, sick headaches are more frequent, he is moody in rising from bed and is fretful and apprehensive until he warms to his day's work; a good luncheon and a glass or two of sherry improve matters, and in the evening he dines out cheerfully, denying himself nothing of meat or drink. We may tell him that his liver is out of order, we may change his wine to whisky and soda, we may exhibit mercurials and salines, and send him to one of the spas; or we may do worse, we may not dwell on the laboured quality of the pulse, we may listen to the cuckoo cry of overwork; his wife will implore us not to lower him, urging that he is always better for his wine, and that a tonic and some rest are all that are needful: and too often he gets the tonic, and is sent off for six weeks' holiday wherein to do as he pleases. In order to gain strength he indulges his appetite; but as he does not dine out, and gets plenty of air and exercise, he comes home better, yet only to repeat the same experiences nine months later and to prescribe a holiday for himself, perhaps without consulting his physician. So things go on, until one day he has a hitch in his speech, a cloud of albumin is found in his scanty and lateritious urine, and a trace of œdema rises upon his shins: his pulse is now tighter than ever, his arteries are stretched like an old glove, and his heart is big and clanging. Partially remediable his state may still be, he may live for a year or two; but he is past cure. At one time I busied myself with deobstruents, rigid diet, and regulated exercise, to turn such a patient back into health; but even in earlier stages than this I was forced to realise that in the corporeal as in the moral sphere repentance may come too late. We may succeed more or less in our immediate purpose; the pulse does become softer under the finger, perhaps much softer; the heart comes in a little, the apoplexy or the pulmonary congestion is staved off; but the patient pettishly persists that he is no better. And he is right; the stroke of death may have been parried, but what of that to a man who is good for nothing? Such a case, perhaps you will say, was a bad one; then I will dwell upon a man not so old, not yet incapable of some hard work, one whose deteriorated cardio-vascular state is apparent only to the skilled observer, but whose blood pressure for two or three years has been from 150 to 180 mm. Hg and whose vascular system has thereby become stretched and inelastic; even in him treatment now can be but a compromise. If you bring his blood pressure down to the normal you will make him slack and spiritless; his circulation has become adapted to an abnormal capacity, and you have henceforth to steer him as you can between the listlessness and malaise due to a reduction of pressure below his acquired habit on the one hand and an apoplexy on the other. This is a task of much nicety and vigilance; and it is as likely as not that meanwhile the patient, who cannot enter into your refinements, will desert you for some more thoroughgoing practitioner.

But now let me suppose that the finger, educated by the discipline of the sphygmometer, leads us to suspect an abnormally high blood pressure and that we by the machine verify this in the first stage of the perversion—that is, during the initial disorder of which I spoke. In this period no cases lend themselves more satisfactorily, not only to palliation, not only to temporary amendment, but even to permanent cure. If excessive pressure be recognised in its earliest phases the course is clear, the treatment is not difficult, cure is fairly certain; and with due watchfulness in years to come shipwreck may be wholly averted. I cannot, then, urge too strongly the perils of neglecting these incipient increases of blood pressure and the importance of educating the finger in the early detection of them. Unfortunately, in this incipient stage very few physicians are alert to detect this process, so baneful in its ascendancy, but, if withstood in its first manifestations, so fugitive; for, unless the case be one of Bright's disease, we are too apt to be indifferent to some excess of pressure and early cardiac hypertrophy is not easy to recognise. Nay, I have often heard patient and physician congratulate each other that at any rate the pulse is a good strong one. I am ready to admit that high pressure in the radial is not always unmistakeable even to the vigilant touch, although the aortic clang may be altered and the heart's apex a trifle outward. Often even then the pressure gauge is needed to convince us that the heart is thrusting against abnormal resistance. In the small hard pulse the hardness may escape notice in the small size of the vessel, especially if the wrist be fat; moreover, these contracted vessels do not so readily become tortuous; indeed, when the artery is larger and laxer and the coat thickened, it is often difficult to be sure of excessive pressure, even when recourse to the pressure gauge, which must always be used in case of doubt, may prove it to be far above the normal. The reason of this latency of excessive pressure to the touch is a little difficult to understand; fortunately, the fallacy is more common in later stages when other features have become obvious. The sense of duration of the wave is often a more definite indication than that of tightness of the vessel.

Let us now return to the physics of the circulation. It is usually said—as, for example, by Sir Lauder Brunton but a few months ago—that "arteries which lose their elasticity in old age offer an increased resistance to the blood stream and as a result the heart hypertrophies," this eminent observer holding, I presume, the current opinion, which I have already challenged, that arterial disease comes first and rise of blood pressure consequently. Now I have always been ready to admit that the more carefully the principles of physics are studied in respect of living beings the more apparent becomes the difficulty of calculating their validity under the complexities and contingencies which in biological problems overlie and qualify them; but we may feel pretty sure that resistance must depend substantially upon, first, the calibre of the tubes, and secondly, the viscosity of the blood. Is it, then, certain that defect of elasticity narrows the bed of the blood stream as a whole? Is it not at least as likely that, on the whole, it may widen it? If in some areas an obliterative process prevail, in others distension may make up for it; and the mean capacity of the channels at any rate may not be diminished.[4] Clinical observation of the cases of extreme arterial deterioration without rise of pressure to which I have already referred impresses this opinion upon me. If any chronic arterial disease narrows the bed of the circulating blood surely it is the syphilitic. Now this manifestation of syphilis often occurs in young, active, and temperate men; and in many of these arterial pressure does not rise, as I have had occasion to ascertain in two or three cases observed continuously for many years—in one case for the last 19 years of the patient's life, beginning at the age of 31 and ending with death by aneurysm of the aorta at 50. In him cerebral symptoms had been distinct ten years before his death, and were wholly removed; though every superficial artery was thick. In another case of Jacksonian epilepsy, due to syphilitic arterial disease, the blood pressure was normal during years of occasional observations, and so on of many other such cases.

Omitting, then, the rarer arterial diseases, such as obliterative arteritis, neuritic arteritis, and periarteritis nodosa, I suggest three classes of so-called "arterio-sclerosis": 1. The involutionary—common in old people, often hereditary, not necessarily or usually associated with rise of arterial pressure; the nature of which, intrinsic or extrinsic, is unknown, but does not lie in high living. This kind may be vaguely referred to the "faltering rheums of age." 2. The mechanical—the result of long-persisting high blood pressure of whatsoever origin. 3. The toxic—resulting from such causes as lead, alcohol, or syphilis; usually met with in younger persons, in some of whom the pressure rises, in others not.

I must now undertake the formidable task of meeting in the gate those many opponents who will tell me that the cases of rising arterial pressure which I have cited are virtually, if not obviously, cases of granular kidney; or, at least, to notice for a moment the current phrase, "renal inadequacy." This equivocal phrase, introduced by Sir Andrew Clark in—I venture to think—one of the less successful essays of this sagacious physician, suggests notions founded, as yet at any rate, on no positive facts or reasons; and it lends itself too readily on the one hand to those hollow explanations which are a snare to us, and on the other to the inexorable dictations of the deadhouse. In a recent thesis of considerable merit one of my graduates tried to convince me of the secret influence of granular kidney in arterial disease by

[4] Sir Richard Douglas Powell (THE LANCET, Jan. 24th, 1903) urges his thesis that the high pressure may be, and is, maintained by arterial constriction. In THE LANCET for Jan. 31st I ventured with the utmost respect to contest this hypothesis.

collecting the records of a vast number of necropsies of the kind, and declaring the existence of fibroid changes in the kidneys in 94 per cent. of them. A large part of his list consisted of cases of elderly, and even aged, persons in whom no definite diagnosis of Bright's disease had been made, but in whose dead kidneys a greater or less amount of fibroid deterioration had been detected. The list contained also, of course, a large number of cases of granular kidney properly so called with which cardiac arterial disease was as usual associated; with these last we have no further concern.[1]

It is impossible at this hour to enter upon the pathology of the fibroid deteriorations found in the kidneys, no less than in many or most other organs, of old subjects; but I must briefly indicate my opinion that this process has little or nothing in common with that of granular kidney proper. This fibroid deterioration is a partial atrophy, or a factor of an atrophy, and is consistent and generally associated with a large remnant of normally secreting elements. Granular kidney, on the contrary, is the result of a protracted submission of the whole kidney to the action of some poison, often unknown, which has primarily a necrosing effect on the secreting, and an irritating effect upon the connective, elements. This effect is best seen in the acuter cases, as in the kidney of pregnancy, of typhoid fever, of diphtheria, and the like, where the poison is more virulent, the corrosion more acute, and the results less obscured by irritation and by the attempted processes of repair.

And I must appeal again from the deadhouse to clinical observation: chronic Bright's disease is a malady with features of its own such as headache, nausea, anæmia, retinitis, and so forth; moreover, its mean incidence falls at a somewhat earlier age than that of the malady I am discussing. Among its features are undoubtedly high arterial pressure and the baneful consequence of cardio-arterial strain; but leaving aside for the moment the quality of the blood, the state of the retina, and other characteristic symptoms a careful supervision of the urine alone will distinguish Bright's disease if, in some obscure cases, not on a single examination, yet certainly after some days' vigilance. I am not concerned to confine myself to well-marked Bright's disease; I am ready to assume that the process, especially in the elderly, may be so chronic as to present its symptoms in a larval shape; yet even in cases so slow, so insidious, a careful study of the urine will tell us if the case turns upon the kidneys. In the kidneys of old persons undergoing some involutionary change, there is secreting area enough to clear the system. Dr. Rose Bradford's ablation experiments support our experience herein; and pathological methods rarely exhibit in these cases a deep intrusion of alien tissue. During life albumin, at times abundant, will rarely prove to be absent for many days together. Even in the early stages of disease we may distinguish the high arterial pressure of renal origin from that not of renal origin, as in the latter albumin is absent, but in the former, if not constantly, is frequently present. Granular casts, again, absent in the non-renal cases, in the renal are not infrequent. Such a case as the following is no uncommon one: a man between 50 and 60 years of age presents himself with a big heart, thick and tortuous arteries, a blood pressure of from 230 to 240 mm. Hg. and some œdema of the lungs. Death may be staved off for a while but his condition is perilous. Now, if ever, his urine should present evidences of "renal inadequacy." He passes for us, however, a small quantity, high in colour, of normal or high specific gravity, which thickens as it cools, and may paint the bottom of the pot. There may or may not be a little albumin in it; but, even after spinning, no casts or but a few hyaline casts are discovered. On subsequent observation during alterative treatment a week's urine proves to be up to the normal mean of solid excretion, or the fall in urea corresponds with a restriction of the diet, a condition often forgotten. After death we find the kidneys tough, the capsule a little adherent, the surface a little rough, and presenting some shallow intrusion of fibre into the parenchyma; and we find evidences of fibroid deterioration not only in the heart and arteries but in many other parts also. Now, I have watched such cases from beginning to end for many years, and in not a few of them I have witnessed all the phases of the malady in the same individual: the lesson I have learned from them and would impress upon others is that the first deviation from health is not arterial disease but rise of blood pressure, the arterial disease being secondary and due to strain; that although this malady has, in common with Bright's disease, the feature of a rise of blood pressure and consequent cardio-arterial strain, it is essentially distinct from the latter and has no tendency to drift into it; that on its first appearance this arterial plethora is remediable—nay, on its second or even third appearance it may be driven away; and that even when somewhat advanced, if the tendency may not be eradicated, it may under due regulation of life and medicine be held in check. In an elderly man, or in one of "gouty" family, a week's high living will produce the state, and a few days fasting and blue pill will dispel it.

On the causes of the process I have described I have little to say worth your hearing. If you call it gouty you will give me little help. Gout is a clinical series, in the type of which inflammation of a joint or joints must be included, and in which rise of arterial pressure is not the rule or, if present, is incidental. I find that in many men badly afflicted by recurrent gout, if free from kidney disease and of temperate habits, rise of arterial pressure does not occur; their vessels remain fairly healthy and they attain to ripeness of years. Persons accused of "suppressed gout" are found in every consulting-room; their only common feature seems to be the absence of the chief characteristic of gout—namely, arthritis; they solicit it, they pray for it—for they believe that it would resolve their disorders; but they pray in vain. On the nature of overt gout he is a bold man who expresses a positive opinion; suppressed gout I believe to be the label of a heterogeneous bundle of maladies, many of which have little or nothing in common; but among them my arterial plethora plays a large part. That this malady has any part in gout, or gout in any part in it, I have no knowledge or surmise; their association in the individual seems to me not to exceed the ratio of mere coincidence, though gout seems to have more than this ratio in the family history of such patients. Arterial plethora is not a common disease in the poor or in persons who live actively and eat and drink sparingly.

And this brings me to the second physical factor of blood pressure—namely, the viscosity of the blood. For nearly ten years past I have endeavoured, but with much mishap, to estimate this factor. Time after time the subject has been agreed upon for a graduation thesis, and as often the research has broken down for one reason or another. My suggestion is that, in the simple cases of rising arterial pressure which I am discussing, the blood is above the normal viscosity; viscosity is not the same quality as specific gravity, nor do they necessarily vary together. And I speak of the viscosity of the blood as a whole, not of the plasma. Dr. A. Haig assures me that in gout the blood does stick in the finer vessels, because of admixture of uric acid; and he most kindly sent to me a little instrument by which this lagging is to be demonstrated, an instrument of which as yet I have had insufficient experience. The injection of uric acid into the blood of animals raises the arterial pressure, if at all, very transiently. That we may have to do with some of the purin bodies, lately investigated by Dr. Walker Hall and others, is not unlikely; that uric acid is the offending element I have not satisfied myself. In some persons faulty metabolism, without extrinsic poison, may set up granular kidney; and my contention that under mental distress a fault of this kind is apt to arise and to have this issue, is, I think, now generally admitted to be true; in other persons some such perversion, sparing the kidney, seems primarily and of itself to set up resistance in the periphery of the circulation, and thus to lead to strain of the arterial tree. It may be that the formation of "anti-substances" to protect the system against the toxins of digestion is not equally active in all persons. The disposition to fibrosis, which is found generally, if not universally, in the tissues of such patients may be a direct consequence of the perverted juices, or may be a feature of slow atrophy due to failing blood streams. The vasa vasorum suffer early, and it is as yet impossible to say what part, whether as cause or consequence, these tiny channels play in the deterioration of the larger vessels which they should nourish. Of these vasa vasorum the coronary arteries are the chief; here, however, we see to our surprise—as I urged more at length in my Lane lectures of

[1] Sir William Broadbent at the meeting of the society and Dr. A. Morison (THE LANCET, Jan. 28th, 1903) agreed with me that renal cases may be distinguished from the cases I have now under consideration.

1895 and elsewhere—that the heart can hypertrophy, and in substantial measure of time and degree retain its hypertrophy, when its coronary arteries have both of them been very gradually but completely occluded.

On treatment I can now touch only in the briefest way. If, as I believe, one main cause of rising arterial pressure in middle life is excess of feeding—that is to say, of food in excess of work and excretion—the remedy obviously lies in prevention. That alcohol, apart from excess of food, will produce the condition I am not sure—I think not; on the other hand, I do feel sure that with such excess it is a potent ally; as in its alliance with arsenic, it seems to prepare the way by lowering tissue resistance. We see a few old men who, usually of lean habit and inheriting longevity, are endowed with enormous and persistent energy of mind and body, and who have never denied themselves meat or drink, yet at threescore and ten or fourscore years have good arteries and a moderate blood pressure, but such men are few; in most persons, as life slows down, the powers of expenditure and excretion fall within much narrower limits. The ordinary man must be warned—say, as he passes the age of 40 years—to keep up muscular exercise in the open air, and to control his appetite. Many, I should say most, men eat and drink far more than they need for the day's work; they are supplied with food generously, without hunting for it; and annual blood-letting has gone out of fashion. As soon as high pressure becomes manifest rigorous diet, deobstruent remedies, and exercise such as cautious hill-climbing under the careful regulation of the physician, are necessary, and necessary not only during a Homburg month and its "after-cure," but also for the rest of the patient's life. Catch him early and he is quite curable; let him drift and cure may be out of reach.

My purpose to-day is fulfilled if I can impress upon my hearers the importance *obstare principiis*. It is in such means as these that we see the value of the Chinese practice of paying the physician only during the days of health, though the method should be supplemented by a provision for the recovery of damages from the patient who disobeys our prescriptions.

Cambridge.

REPORT ON THE INFLUENCE OF SANITATION IN CHECKING ENTERIC FEVER AND DYSENTERY AT HARRISMITH, ORANGE RIVER COLONY, SOUTH AFRICA, IN THE YEARS 1901 AND 1902

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THE following report has for its chief object the demonstration of the remarkable results attained by sanitation—more especially directed towards preventing the spread of infection by flies—in controlling both the extent and virulence of the above diseases during the fever season of 1901 and 1902. The 8th Division marched into Harrismith on August 7th, 1900, and the temporary hospital, from which all the earlier returns have been taken, was first opened on August 26th, 1900.

In previous years Harrismith had always suffered from enteric fever and dysentery during the summer months. While a certain amount of dysentery was prevalent all the year round the enteric fever season was almost entirely confined to the period between the end of October and the middle of April. With the exception of the year 1890 both these diseases had been of a mild type, and it was not until the recent war that their virulence increased to such an alarming extent. Although the epidemic of 1890 was severe the civilian practitioners of the town told me that it could not compare with that of the season of 1900 or that of 1901.

The two seasons compared in the following statistics are (1) that from the last week in August, 1900, to the end of April, 1901; and (2) that from the last week in August, 1901, to the end of April, 1902. For the sake of brevity the first will be called "Season A," and the second "Season B."

POSSIBLE CAUSES OF ERROR IN THE TABLES.

1. A certain element of error with regard to the fatality of the diseases in question must necessarily enter into the statistics taken from the military hospitals owing to the number of cases transferred down country whose subsequent death or recovery it has been impossible to ascertain, but this applies equally to both seasons and hence cannot materially affect conclusions drawn from a comparison between them.

2. Special notification of cases locally contracted was not instituted till April, 1901, and it has therefore been necessary to divide those contracted in Season A into (*a*) direct admissions and (*b*) cases transferred from other hospitals. Every endeavour has been made to ascertain whether any of the direct admissions had been contracted on trek, as, for example, in those instances in which men have been admitted with enteric fever or dysentery a few days after arrival in Harrismith. On the other hand, a certain number of cases shown as transferred from other hospitals were from field hospitals which had remained for some time in Harrismith and were consequently of local origin. As at this time the cases contracted on trek were invariably first admitted to a field hospital and then transferred to the temporary hospital at Harrismith, the greatest care being taken to distinguish between "direct admissions" and "transfers," the error arising from the above two sources is so slight that for the sake of comparison it may be disregarded.

3. During Season A a certain number of cases which were probably enteric fever were diagnosed and transferred as simple continued fever, whereas in Season B most of these cases were recognised to be abortive enteric fever and were diagnosed as such.

ARRANGEMENT OF THE TABLES.

To give a comprehensive view of the diseases in the following tables the total number of cases admitted has been shown in the centre; where they were contracted locally or on trek, on the left side; and their ultimate disposal, either by return to duty, by transference, or by death, on the right side.

It will be seen that in Season A from August 26th to the end of September, 1900, there were only 15 cases of enteric fever and 16 cases of dysentery and that none of these were fatal. Indeed, as many as three patients suffering from enteric fever and 15 suffering from dysentery were returned to duty, the remainder being transferred down country. In October, however, the number of cases of enteric fever and dysentery had an increase over the previous month of two and of 10 respectively and the commencing virulence of the former disease is shown by the fact that the patients in two cases died. In November the totals suddenly rose to 68 cases of enteric fever, of which 11 patients died, and of 45 of dysentery, of which one patient died. In December the epidemic reached its maximum with regard to the virulence, the number of cases of enteric fever being 121, of which 28 patients died, and 45 of dysentery, of which three patients died. In January, 1901, the maximum number of admissions was reached, though the total number of deaths was nine less than in the previous month. The number of cases of enteric fever admitted was 184, of which 19 patients died, and 36 of dysentery, of which three patients died. February showed a drop both in the admissions and deaths, the patients admitted suffering from enteric fever being 120, of whom 14 died, and from dysentery 28, of whom one patient died. In March the number of admissions for enteric fever increased by one and the deaths by three over those of the previous month, while the patients admitted for dysentery were one less; there was one death from this disease, as in February. April showed a further drop to 114 cases of enteric fever, of which eight patients died, while the cases of dysentery increased to 69, of which one patient died. A summary of the tables shows for this season a total of 756 cases of enteric fever, of which 631 were of local origin, and 280 cases of dysentery, of which 219 were of local origin. The fact, however, which gives the best idea of the severity of the epidemic is that the deaths amounted to 99 from enteric fever, of which 81 cases were of local origin, and to 10 from dysentery, of which nine cases were of local origin.

CAUSE OF THE EPIDEMIC.

When seeking to account for the appalling spread of this

epidemic it became a question of vital importance to discover the mode of dissemination of the germs. One naturally turned first of all to the water-supply. This was obtained from the Platberg, a large hill lying close to the town and with an extent of surface, approximately, of five square miles. The water, after percolating through the soil, issued from the side of the hill in springs. Several of the streams formed by these springs, extending over an area of about two square miles, were made to converge towards the water tanks, which latter were fenced in to protect them from the encroachment of animals. The whole catchment area was not fenced in at the time of my investigation and there was, therefore a risk of contamination of the streams from this source, though, as there were but few animals grazing on the slopes of the Platberg, the danger could not be accounted as very great. Besides which, the water, when chemically and bacteriologically examined, was invariably found pure. I ascertained from the town clerk that in previous years, when peace prevailed, it had been usual to graze a large number of cattle over this ground, yet former epidemics had been trifling in comparison with the one in question. Hence, one was compelled to seek elsewhere for a cause. Fresh milk at this time was very scarce and tinned milk took its place to a large extent. Those inhabitants of the town who used fresh milk generally obtained it from a cow of their own, the troops, who were the chief sufferers, being supplied wholly with tinned milk, so that this source of infection had to be put out of court.

It will be well to consider here the condition of the town and garrison at this time. Since its construction the town had been for the most part occupied by Boers whose ideas of general cleanliness might be taken as a negligible quantity. Refuse had been allowed to collect in back yards and waste ground to such an extent that the town was a veritable rubbish-bin and in addition those inhabitants who had abandoned their houses at the commencement and during the progress of hostilities had neglected to have their latrines cleaned and locked up before they left. Several of these contained excreta several months old and kept in the best possible condition for breeding germs. Natives and others finding them open had used them from time to time, so that their general filthy condition can be better imagined than described. Various units were camped in the vicinity of the town and at this time their ideas of sanitation were primitive in the extreme. They were using open latrine trenches, with little or no attempt to keep the excreta covered and the men were most probably in the habit of urinating on the ground. I make this latter statement because I have found by practical experience that, unless special buckets are placed close to the men's tents at night, it is quite impossible to prevent the ground being polluted. The above condition of camps prevailed in spite of efforts made to remedy it, simply because there had been no time to institute a definite hygienic system. I found that it took months to train units into carrying out a systematic sanitary routine. Columns would come into Harrismith for supplies from time to time and would camp within the outposts. These columns either considered sanitary measures superfluous or else did not consider them at all, for it was usual to find latrines uncovered and quantities of refuse on the ground after the columns had left. Native locations existed close to the town which were under little or no supervision, hence excreta and refuse of all kinds could be seen in the dongas and on the banks of spruits adjacent to these locations. As can be well understood, all this tended towards the breeding and maintenance of enormous quantities of flies which were constantly flying backwards and forwards between the excreta and food. Indeed, their numbers were so great that one could only account for the fact that every one was not infected by supposing that many had become immune through constantly imbibing small doses of the poison.

At this time I was in command of a half field hospital and I found that whenever our column put into Harrismith for a few days for supplies numbers of the men suffered from diarrhœa and muco-enteritis which usually came on from two to three days after our first camping near the town. This was of such frequent occurrence that we were only too glad to start off on trek again. I am fully convinced in my own mind that this sickness was produced by the direct contamination of the food with fæcal matter conveyed by flies. To me it is quite conceivable that if flies can convey pollen from one flower to another they can also convey particles containing germs. I have little doubt that the common house-flies take an active part in fertilisation, as I have myself noticed that several species of flowers are visited by these insects. The recent experiments of Major C. H. Hale, D.S.O., R.A.M.C., at Ficksburg lend confirmation to the theory of infection by flies. Lime was sprinkled over an open latrine and a piece of raw meat was placed within a few yards of it. It was found that within a comparatively short space of time the meat was covered with a layer of lime, this having been conveyed by the flies from the latrine to the meat. One of the arguments with which I have been assailed is that the town was as filthy and the flies were probably as many as in former years, yet that no previous epidemic was so severe. My answer to this is that it is doubtful if the town was ever so filthy before, for, as explained above, many of the inhabitants had left in a hurry, without attending to sanitary matters before leaving, and it was not until the present war that camps had existed all round the town. But even leaving this out of account I do not claim that the flies determine the virulence so much as the *spread* of infection. Once given the introduction to the town of a virulent form of enteric fever by the troops—and it is a recognised fact that this fever is never so virulent as during a campaign—the existing conditions of the town were such as to favour its spread by the agency of flies.

Harrismith, like most towns in South Africa, suffers severely from dust storms and it has been suggested that infection is carried by such means. It is only natural to suppose that the germs can be thus conveyed, but I do not think that in this particular epidemic this mode of infection was the chief one. It must be considered that for infection to be conveyed in this way it is necessary for the excreta, or other germ-containing medium, to be first dried by the sun and air and so reduced to minute particles capable of being disseminated by the wind, but surely this very process of desiccation which it has gone through must have either killed, or at any rate devitalised, the germs, to a large extent, by the sterilising action of the sun. On the other hand, the flies are constantly flying to and fro between the infected matter in its fresh state and the food so that it is only reasonable to suppose that this source of infection must be far the more potent of the two.

SANITARY PRECAUTIONS.

The sanitary measures adopted at Harrismith, though they include the usual precautions commonly recognised under this head, were in the main devoted to preventing the contamination of food with germs conveyed by flies and the possible infection by dust. These measures naturally came under three headings—viz. (1) the protection of excreta from flies; (2) the destruction of flies and prevention of their breeding; and (3) the protection of all kinds of food from flies.

1. *The protection of excreta from flies.*—For this purpose it became necessary to employ some covering which would mechanically protect the excreta. If one could have been certain that a thick layer of dry earth would always be kept over the excreta and that the greatest care would be taken to exclude flies when the pans were being emptied, one would have been disposed to employ this method as being the most economical, but knowing the difficulties in this respect and taking into consideration the virulence of the germs with which one had to deal, it became clear that some form of disinfectant which would at once serve the double function of keeping off flies and devitalising or destroying the germs should be employed. In choosing a suitable disinfectant for use with troops, it seemed to me to be a very important consideration to choose one which, in addition to having the above qualifications, would at the same time be easily visible to the inspecting sanitary or other officer and so would prevent the men from saying that they had used it when they had not. All liquid disinfectants had the disadvantage that they sank to the bottom of the pans, and in consequence neither formed a mechanical protecting layer nor left any visible evidence of their recent use. Powders, on the other hand, had neither of these disadvantages. Hence, it was finally decided to employ a dry disinfectant and the one which seemed especially to meet the requirements was chloride of lime. Its odour kept the flies off more than ordinary lime and being white it could always be seen after use. These advantages applied equally when it was used in excreta tubs and in urine tubs, for in the latter case it formed a frothy layer on the surface of the liquid. The orders issued with regard to the use

of this disinfectant were to the effect that pioneers should be appointed at each camp and post to go round five or six times a day to see that the excreta and refuse were always kept covered and that the disinfectant was also used in the urine tubs. The men were directed to use the disinfectant freely before leaving the latrine, notices being placed in the latrines to this effect, and the non-commissioned officers in charge of the posts were made personally responsible for the strict observance of these orders. Attention was directed to the question of disinfecting the urine as well as the fæces, for it seemed conceivable that infection might be conveyed by flies from ground on which infected urine had been spilt when the urine tubs were being emptied. I found that as new units arrived it took from two to three months to drill them into anything approaching perfection in the carrying out of the above precautions, but the condition of the Harrismith outposts and camps at the time of writing was such that one may visit any number of these and yet rarely find any excreta or refuse visible. Corrugated iron latrine sheds were constructed for the excreta buckets. These, by protecting the contents of the pans from the light, materially assisted in keeping off the flies, as the latter will not so readily feed in the dark. An additional advantage was that stained latrine paper was prevented from being blown about. Prior to the introduction of these sheds it was no uncommon sight to see quantities of this paper being blown by the wind from place to place, especially when high winds prevailed.

2. *The destruction of flies and prevention of their breeding.*—Tons of refuse which had no doubt formed breeding grounds for these insects were removed from the town and its precincts. In the case of the town this was accomplished chiefly by the aid of the military native prisoners, as the municipality could not afford to keep natives for this purpose, while the ground surrounding the town was kept clean by a sanitary corps specially formed for this purpose. In addition, the inhabitants were encouraged to cultivate their waste ground as far as possible, as it was found that the soil which had been left undisturbed for some time contained quantities of eggs and young flies just hatching out. Special notices were distributed throughout the town calling attention to the danger of infection being conveyed by flies and the inhabitants were urged to do all in their power to destroy these insects. It was found that the only satisfactory method for this purpose was to use Keating's powder. This was dusted at night over the walls of kitchens and other rooms in which the flies tended to collect and also over the window-sills during the day. In this way, with the expenditure of comparatively little time and trouble, it was possible to destroy thousands of the insects daily in each house.

3. *The protection of all kinds of food from flies.*—Meat safes made of perforated zinc were erected at every camp and post, and units were encouraged to construct fly-tight boxes for the other rations such as bread and vegetables. It was also recommended that these boxes should be taken down to the supply depôt and the rations placed under cover as soon as they were drawn and so conveyed back to the unit with no danger of contamination during transit. Notices were distributed throughout the town to the same effect and the inhabitants were advised to protect their houses by fixing gauze screens over the windows. The best form of screen was found to be one consisting of a metallic gauze of fine mesh fixed to a wooden frame which was hinged to the outside supports of each window. To clear a room of flies all that was necessary was to flick the walls with a fly-wisp or cloth. The disturbed flies invariably settled on the gauze screen which was then opened and the flies were brushed out. The closing of the screen again prevented other flies from entering.

Other sanitary precautions were taken which, though they were not specially directed towards preventing infection from being conveyed by flies, in many cases indirectly assisted towards this end.

Native sanitary corps.—First and foremost among these must certainly be placed the formation of the native sanitary corps mentioned above. The greatest possible difficulty was experienced at first in having carcasses and refuse removed promptly, owing to the scarcity of wagons and the fact that natives were only occasionally available for the work. It often occurred that several weeks would elapse after these had been reported before they were removed, this being especially the case during epidemics of rinderpest, from which numbers of cattle died at different times. The carcasses would be sometimes left so long that they became too decayed to allow of their removal and in consequence they often had to be buried where they lay. This was especially objectionable when they had died in the vicinity of camps or on ground likely to be subsequently used for camping purposes, to say nothing of the unpleasantness caused by the foul odours which had been given off during the process of putrefaction. Hence, it became imperative that some systematic removal and burial of carcasses and refuse should be inaugurated and to meet the difficulty a native sanitary corps was formed. This had for its *personnel* a combatant officer, a non-commissioned officer, three privates, a conductor, an overseer, and 100 natives. It was provided with 10 wagons, two Scotch carts, and two teams of oxen for drag purposes. Prior to the formation of this corps it had been customary for all units to remove their camp refuse in their own wagons which were at other times used to convey rations. This formed a great element of danger from possible contamination of the food, as the non-commissioned officer in charge of the wagon, when drawing supplies, could not be trusted effectually to protect the rations. When the sanitary corps was formed this danger ceased, as the work of removal of camp refuse was undertaken by the corps as one of its routine duties.

Water.—As explained above, the municipal water reservoirs were protected by a wire fencing at the time of the British occupation of the town, but the catchment area as a whole was not fenced in. The importance of taking this latter precaution without delay was pointed out by the principal medical officer of the 8th division, but many objections were raised to the scheme, the chief of these being: (1) the difficulty of deciding whether this should be undertaken by the military or by the municipality; (2) the cost, which it was found would be very heavy, as several miles of fencing were required; and (3) the question of labour. Colonel J. L. Notter, Professor of Hygiene, inspected the water-supply on March 4th, 1901, and, seeing the danger of the water being polluted by cattle, recommended the construction of filter beds, but the objections raised to the first scheme applied far more to this, as the cost and labour necessary in this case were infinitely greater than in the former. Early in November the whole of this area, from the reservoirs up to the Platberg, was inclosed and the Harrismith water-supply could then be said to compare favourably with any in South Africa. Although this practically raised the water above suspicion strict orders were nevertheless issued to the effect that all water used for drinking purposes or for washing plates, vegetables, &c., was to be boiled before being used and that water carts and tanks were to be cleaned out once a week with a solution of potassium permanganate. The same precautions were also taken with the men's water bottles. The use of Berkefeld filters was also encouraged as an additional precaution, but only a few of these were available.

Ultimate disposal of excreta and refuse.—As the various outposts and many of the camps round Harrismith were permanent it became in the highest degree desirable to prevent the ground from becoming contaminated more than was absolutely necessary. With this object in view a pail system was adopted and arrangements were made that both the soil buckets and urine tubs should be emptied at least once a day. Not a single outpost, however distant or difficult of access, was without this provision. The work of removal was given over to a civilian contractor who arranged for the transport of the excreta, by means of tank carts, to a piece of ground lying well outside the town. Urine tubs were ordered to be placed close to the men's tents at night, to prevent the pollution of the ground. This allowed of the urine being disinfected and eliminated the danger which would have followed its drying on the ground and so infecting the dust.

Precautions at blockhouses.—Precautions were also taken at the various blockhouses which formed the outposts of Harrismith. It was found when these blockhouses were first constructed that a layer of dust, consisting chiefly of dry earth, invariably formed on the floors and that this rendered it impossible to keep the ground clean. It was therefore decided that all the blockhouses should be floored with a mixture of ant-heap and water. This, in drying, formed a hard level surface which could be easily brushed. It was also found that by frequently whitewashing the beams and interior of the blockhouses with a mixture containing chloride of lime the flies could be kept away to a very considerable extent.

Notification of disease.—A system was introduced by which

the resident magistrate rendered a weekly report to me of the name and residence of any civilian suffering from enteric fever or dysentery, this information being regularly notified to him by the civilian practitioners of the town. On receipt of this report I visited the house and recommended any sanitary measures which I considered necessary to prevent the spread of the disease. In addition, I was also notified of the number of cases of these diseases in the Boer refugee camp, the report being sent by the superintendent through the resident magistrate. In No. 19 stationary hospital each case was most carefully investigated to ascertain whether it had been contracted locally or on trek. In the former case a report was sent to me giving the name of the patient and the camp from which he had been admitted. I visited these camps in a like manner and if the tent previously occupied by the man could be identified it was taken down, scrubbed, and moved to a new site and the ground on which it had been standing was then limed and left to the action of the sun and air for some time before being again used for camping purposes. Inquiries were always made to ascertain if the patient had been in the habit of frequenting any particular eating-house in the town, but I never succeeded in tracing any particular case to this origin.

Removal of the hospital.—I think one may justifiably include this under the head of "sanitary measures." When the town was first occupied the school-house and church, as being the most suitable buildings, were formed into a temporary hospital and remained as such from August 26th, 1900, to February, 1901, when No. 19 stationary hospital was sufficiently advanced in construction to allow of patients being transferred to it. This latter hospital consisted of wooden huts and marquees and was placed half a mile outside the town, so that there was far less danger of infection being conveyed by flies from the hospital to the town after the removal of the patients to this distance than was the case formerly.

The above particulars will give a fair idea of the general principles which were carried out. As to their efficacy Table I. will speak for itself.

CASES DURING SEASONS A AND B (TABLE I.).

Regarding the table of Season A and Season B I wish especially to draw attention to the column headed "contracted locally." The difference between the two years will be at once apparent.

The relative number of locally contracted cases in the two seasons was as follows:—Season A: Enteric fever, 631; and dysentery, 219. Season B: Enteric fever, 62; and dysentery, 30. Yet the total cases admitted were greater by 321 and 187 respectively in Season B than in Season A.

TABLE I.—*Showing the Total Number of Cases of Enteric Fever and Dysentery admitted.*

SEASON A.—*From August, 1900, to April, 1901.*

—	—	Contracted locally.	Contracted on trek.	Total.	Returned to duty.	Transferred.	Died.
1900.							
Last week in August (six days)	Enteric fever.	4	0	4	2	2	0
	Dysentery.	7	5	12	11	1	0
September ...	Enteric fever.	6	5	11	1	10	0
	Dysentery.	3	1	4	4	0	0
October... ...	Enteric fever.	8	5	13	5	6	2
	Dysentery.	7	7	14	8	6	0
November ...	Enteric fever.	40	28	68	0	57	11
	Dysentery.	19	26	45	16	28	1
December ...	Enteric fever.	95	26	121	1	92	28
	Dysentery.	29	16	45	7	35	3
1901.							
January ...	Enteric fever.	141	43	184	0	165	19
	Dysentery.	31	5	36	4	29	3
February ...	Enteric fever.	103	17	120	0	106	14
	Dysentery.	28	0	28	4	23	1
March	Enteric fever.	120	1	121	5	99	17
	Dysentery.	26	1	27	9	17	1
April	Enteric fever.	114	0	114	36	70	8
	Dysentery.	69	0	69	58	10	1
Totals ...	Enteric fever.	631	—	756	50	607	99
	Dysentery.	219	—	230	121	149	10

SEASON B.—*From August, 1901, to April, 1902.*

1901.							
Last week in August ...	Enteric fever.	0	0	0	0	0	0
	Dysentery.	1	0	1	1	0	0
September ...	Enteric fever.	2	23	25	4	20	0
	Dysentery.	0	2	2	2	0	0
October... ...	Enteric fever.	4	23	27	5	0	1
	Dysentery.	0	0	6	6	0	0
November ...	Enteric fever.	3	18	21	5	33	1
	Dysentery.	3	28	31	12	2	0
December ...	Enteric fever.	3	27	30	1	2	0
	Dysentery.	9	36	45	31	0	2
1902.							
January ...	Enteric fever.	17	130	147	3	101	0
	Dysentery.	11	119	130	41	75	2
February ...	Enteric fever.	9	363	372	16	226	15
	Dysentery.	0	110	110	37	87	0
March	Enteric fever.	7	312	319	11	247	17
	Dysentery.	4	96	100	13	72	2
April	Enteric fever.	17	119	136	20	156	7
	Dysentery.	2	40	42	20	26	4
Totals ...	Enteric fever.	62	1015	1077	65	785	41
	Dysentery.	30	437	467	163	282	10

A comparison of the number of cases admitted during the various months shows that in Season A the month with the largest number of admissions for enteric fever was January and that with the largest number for dysentery was April, whereas in Season B the months showing the largest number of admissions were February and January respectively. Very little can be deduced from this, as the number admitted in any one month was necessarily influenced by the number of columns operating in the neighbourhood, which was by no means a constant quantity, but it is satisfactory to note that, although in Season A during the months mentioned most of the admissions for enteric fever and all those for dysentery were locally contracted, in Season B nearly all the cases were contracted on the veldt. In the locally contracted cases which arose in the hospital itself the patients were orderlies actually attending on the sick, and the latter were men who had been admitted to the convalescent camp from the hospital only a few days before developing symptoms of enteric fever and who had no doubt caught the infection in the hospital. As these cases were beyond the influence of sanitary measures applied to the garrison at large they should, strictly speaking, have been eliminated from this report, but it was impossible to strike out cases contracted in this way in Season A as no record was kept of these, so that for the sake of comparison they had also to be included in the figures of locally contracted cases in Season B. It will be seen that of the 62 local cases of enteric fever 1 per cent. was contracted in the hospital and 2 per cent. were contracted in the convalescent camp and of the 30 local cases of dysentery two were contracted in the hospital, leaving only 41 cases of enteric fever and 28 cases of dysentery for the garrison itself.

DEATHS (TABLES II. AND III.).

The most significant figures are to be found in Tables II. and III., for they show that although no less than 81 of the 99 deaths which occurred from enteric fever in Season A were of cases locally contracted *not a single locally contracted case died during Season B.* Similarly, with dysentery in Season A nine of the 10 deaths were locally contracted,

TABLE II.—*Showing the Number of Deaths from Enteric Fever in Season A as compared with those in Season B, distinguishing those contracted locally and on trek.*

—	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.	
	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.
Season A...	2	0	6	5	20	8	16	3	12	2	17	0	8	0
Season B..	0	1	0	1	0	0	0	0	0	15	0	17	0	7

Total deaths from enteric fever ... { Season A, 99, of which 81 were locally contracted
Season B, 41, „ 0 „ „

TABLE III.—*Showing the Number of Deaths from Dysentery in Season A as compared with those in Season B, Distinguishing those contracted locally and on trek.*

—	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.	
	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.	Locally.	On trek.
Season A...	0	0	0	0	0	2	0	2	0	0	0	2	0	4
Season B...	0	0	0	1	3	0	3	0	1	0	1	0	1	0

Total deaths from dysentery ... { Season A, 10, of which 9 were locally contracted. Season B, 10, " 0 " "

TABLE IV.—*Showing the Number of Civil Cases of Enteric Fever treated by Private Practitioners in Harrismith.**

—	No. of cases.	Deaths.
Season A	145	10
Season B	54	2

* No accurate returns of deaths from dysentery could be obtained.

while *no local case died in Season B.*[1] This proves that the virulence of the epidemic in Harrismith had decreased in a very remarkable degree in spite of the fact that the disease was very severe on the veldt.

PERCENTAGE OF DEATHS.

Enteric fever.—The percentage of deaths on the total cases of enteric fever dropped from 11·7 per cent. in Season A to 3·8 per cent. in Season B. This, coupled with the fact that the percentage of deaths from cases contracted on trek in Season B was between a third and a quarter of that of Season A, shows that the epidemic as a whole, affecting individuals both on the veldt and in the town, was undoubtedly less severe in Season B than in Season A, but in the case of the locally contracted cases the percentage of deaths fell to 0 per cent. in Season B as against 11·1 per cent. in Season A—a far greater fall in proportion and one which may reasonably be attributed to the sanitary precautions taken. In other words, the difference of severity between the two seasons was remarkably greater in the cases locally treated than in those contracted on the veldt.

This is at once an answer to the argument that the reason for the lessened severity of the fever in Harrismith in Season B was due to this disease tending to vary, being less severe in some years than in others, for it is apparent that although the severity of the total epidemic was less, the disease in Harrismith was of a far less severe type than that on the veldt.

Dysentery.—The severity of the epidemic of this disease, both on the veldt and in the town, is also shown to be less in Season B than in Season A, the deaths having dropped from 3·6 per cent. to 2·1 per cent., but this can be shown to be wholly due to the lessened severity of the disease in Harrismith, as the figures show that there was actually a higher mortality on the veldt (2·3 per cent.) in Season B than in Season A (1·6 per cent.). This likewise is an answer to the argument mentioned above.

CIVILIANS SUFFERING FROM ENTERIC FEVER (TABLE IV.).

As one of the local practitioners did not keep a record during the first season of the number of dysentery cases which he treated I have not been able to obtain statistics of this disease for comparison, so I am only showing the cases of enteric fever. It will be seen that in Season A the total number of cases treated was 145, the patients in 10 of which died, while in Season B the total was 54, of which two died.

As these two were the only cases out of the whole garrison and town which died during Season B it will be of interest to see what kind of cases they were, in order to account for their fatal termination. One was that of an old lady who had suffered from asthma for many years and who died from heart failure. The other was that of a child, ten years of age, who died from meningitis complicating the enteric fever.

CIRCUMSTANCES ACTING IN ANTAGONISM TO HYGIENIC MEASURES.

There are several of these which in themselves were sufficient to account for the local cases of enteric fever and dysentery during Season B.

Boer concentration camp.—I looked upon this camp as a very great menace to the health of the garrison and town. Enteric fever and dysentery existed among the refugees in a severe form, and but for the barrier formed by the stringent measures in force they would no doubt have spread beyond the camp. Indeed, it is more than probable that several of the local cases were due to germs conveyed in this way. This camp was under the civil administration and the general health of the garrison and town so largely depended on its being kept in a sanitary condition that it became necessary for me to inspect it frequently in my capacity of civil sanitary officer. I found it impossible to get my recommendations carried out thoroughly, this being specially the case with regard to the protection of the excreta from flies. A few suggestions, however, bore fruit and notably those for the installation of an incinerator for the destruction of infected excreta from the hospital and the thorough disinfection of all hospital linen. Although it is almost beyond belief that human beings could become so degraded, it is none the less a fact that women in this camp were known to throw excreta into other women's tents as an act of spite and the sergeant living in the camp informed me that it was no uncommon thing for the Boers to use their tent walls in place of latrine paper. From this it can be easily judged how difficult the task of the superintendent must have been to instil cleanly principles into these people and how great was the danger of the spread of disease from this camp during an epidemic.

Natives.—Probably the next greatest menace was from the natives. We have to consider the permanent native locations, and in addition several thousands of native refugees who were brought in from the veldt and camped in the vicinity of the town. My recommendations to the civil authorities were practically ignored, with the result that when Professor Simpson made his inspection I was able to show him human beings living under the most startling insanitary conditions which it would be possible to conceive. It would take up too much space to give all these in detail and it would be unnecessary for the purpose of this report. Fortunately the danger was realised in time and these camps were broken up and the natives were sent down the line to other locations near Albertina. The work of removal took some months and all this time the town was exposed to danger from this source—a danger which can hardly be overestimated, as many of these natives were suffering from enteric fever and dysentery at this time. It takes some time to accustom natives to the use of latrines and it often happens that, although these are provided for them, they prefer to make their way to some donga or spruit. In order to prevent this native policemen were posted over likely dongas and any native caught polluting then was made an example of, but it can be readily understood that it was impossible entirely to suppress this evil. As it was not unusual for natives suffering from mild enteric fever or dysentery to refrain for some time from reporting themselves to be sick, the danger from this source can be easily appreciated. One very dangerous habit of the natives which I discovered was that of using stones in lieu of latrine paper. At one time it was not unusual to find a latrine full of these stones, any one of which might be covered with pathogenic micro-organisms. I had all these stones regularly removed at the time that the excreta buckets were emptied. Disinfectants were also freely used in these latrines.

Mobile columns.—Although units which were camped for some time round the town could be drilled into carrying out systematic sanitary principles it was quite otherwise with those columns which merely stayed in the vicinity of Harrismith for a short time. The ground became so fouled by these that recommendations were strongly made to the general officer commanding to the effect that all such columns should be ordered to camp outside the outposts. If it became imperative that such a column should camp within the outposts latrine buckets were supplied to it at once and

[1] In case it may be said that the above figures were due to more of the serious cases being transferred in Season B than in the other I may here say that this was not the case, as in both seasons especial care was taken to retain all serious cases until they could undertake the journey without danger.

the sanitary corps cleaned the ground immediately after it had left. Occasionally detachments would be ordered into Harrismith from places such as Tyger's Kloof in which enteric fever or dysentery was prevalent. These were a menace to the whole garrison. Especial care was taken to instil the principles mentioned above into these detachments and the grave consequences which would follow neglect in the carrying out of these were pointed out to them.

Disposal ground for refuse, carcasses, and excreta.—This is unquestionably a very great blot on the hygiene of Harrismith. From its proximity to the river it must necessarily foul the water and it forms an attraction and breeding ground for quantities of flies. Until some more sanitary form of disposal is introduced this will always be a source of danger to health. The questions of changing the site of the ground and of the installation of incinerators has been frequently mooted, only to be overruled by a number of objections which for the time being it was impossible to overcome. It would take up too much space to go into all these in this report, but it may be said that the main difficulty in the way is the lack of municipal funds. I am fully convinced that in years to come, when trees have been planted around the town, when an effective method of disposal of refuse has been introduced, and when the inhabitants have been educated into the carrying out of common-sense sanitation there should be no more salubrious spot in South Africa than Harrismith.

In considering the fall in the mortality which occurred in Season B one cannot ignore the fact that the altered hygienic conditions under which the cases were treated in No. 19 stationary hospital probably assisted towards this end, but as all cases (both those contracted on the veldt and in the town and garrison) were treated under the same conditions this will in no way affect the fact that the mortality-rate of the cases contracted on the veldt was much higher than that of those contracted in the town and garrison.

Stanley-gardens, W.

A CASE OF ACUTE TETANUS WITH CERTAIN POINTS OF INTEREST.

BY L. DIMOCK SAUNDERS, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a man, aged 38 years, was thrown from a dogcart on to a rough bank on Feb. 2nd, 1903, and he sustained a somewhat deep and lacerated wound just above the left knee-cap, and several scratches about the hands and face. Within an hour after the accident he was taken to the Salisbury General Infirmary where the wounds were carefully washed and dressed with carbolic lotion and the cavities were stuffed with iodoform gauze. He came under my care on the following day and I continued personally to dress the wound which appeared to be making uninterrupted progress towards recovery, the edges of the wound freely granulating and gradually contracting. On the 12th everything appeared perfectly satisfactory. The patient was cheerful, in good spirits, and made no complaint of any discomfort in the wound. On the afternoon of the 13th word was brought to me that slight difficulty in speaking was noticed. I went immediately to see the patient and I found that there was a distinct change in the voice and in the expression of the face; the masseters and sterno-mastoid muscles were becoming tense. He also complained of aching pains in the jaws and shoulders. The temperature was normal, the pulse was 60, and the heart sounds and the lung sounds were normal. The teeth could be separated about three-quarters of an inch. As the patient was slightly constipated four grains of calomel were given. Antitoxin was immediately telegraphed for and it arrived that night, 10 cubic centimetres being injected into the lumbar region at 11 P.M.; 15 grains of chloral hydrate were also administered and I ordered him to be given as much of meat jelly essence, beef tea, and milk as he would take. On the 14th at 10 30 A.M. the pulse was 96 and the temperature was normal. The teeth could now only be separated about a quarter of an inch. 10 cubic centimetres of antitoxin were injected. Dr. H. P. Blackmore, who saw the patient with me at 1 P.M., confirmed the diagnosis and advised following on with the same treatment. At 9.30 P.M. 10 cubic centimetres were again injected. The patient was now very restless and the abdominal muscles were quite rigid. The muscles of the legs and arms were unaffected. The pulse was 130, the temperature was normal, and there was profuse perspiration. The hands and feet were very cold. Hot bottles were applied to the extremities and 30 grains of chloral hydrate were administered. On the 15th at 10 A.M. the teeth could only just be separated, but the patient could still swallow without difficulty. The pulse was 148 and the temperature was normal. The abdominal muscles were very hard though there were no general spasms; the patient was much warmer but still he was perspiring profusely. 10 cubic centimetres of antitoxin were injected. At 3 P.M. the patient was very excited and for a short time before my arrival he had persistently refused to take food (previously he had been taking it well). The temperature was 101·8° F. and the pulse was very rapid but of good volume. I now noticed for the first time momentary spasms of the opisthotonos variety of the muscles of the back and legs. The jaws were tightly clenched but owing to the irregularity of the line of the teeth food could still be easily administered by pouring the liquid within the inside of the cheek. The patient complained of a pain just below the heart which gradually increased in intensity. The opisthotonos now gradually became more marked, though never of great severity, and the patient died quietly at 6 P.M., apparently free from pain.

The antitoxin used was that supplied by the Pasteur Institute. Constipation was obstinate throughout, notwithstanding the administration of calomel and other aperient drugs.

This case of acute tetanus appears to me to have the following points of interest. 1. The antitoxin apparently had no effect whatever on the course of the disease. 2. No premonitory symptoms were complained of before the onset of the disease on the eleventh day after the accident. 3. Although the pulse gradually increased in frequency the temperature was normal and it only rose to 101·8° F. just before death. 4. The opisthotonos spasms were comparatively slight and unaccompanied by pain and were only noticed a few hours before death. 5. The end came quite quietly and painlessly and apparently was due to sudden heart failure. The patient was quite conscious to the end and was able to swallow his nourishment without much difficulty. At the time of the accident the patient was in good health and had no history of previous illness.

Salisbury.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON AN UNUSUAL FORM OF VESICAL CALCULUS.

BY HERBERT W. PAGE, F.R.C.S. ENG., SENIOR SURGEON TO ST. MARY'S HOSPITAL, LONDON.

BY suprapubic opening I removed from the bladder of an idiot boy admitted to hospital on Dec. 9th, 1902, a calculus of such singular formation as to make it worthy of a short note in THE LANCET.

The patient, aged seven years, was sent up from a village in Oxfordshire with the history of having begun in August last to show difficulty in passing his urine and to have abdominal pain. Not until three weeks before admission was a medical man consulted and by him he was sent to St. Mary's Hospital. The child was then suffering agonies of pain which were most distressing to witness and at frequent intervals he was passing small quantities of alkaline urine containing pus and blood. Stone was suspected and Mr. Nicholson, my house surgeon, sounded but could feel nothing. The bladder would not hold more than an ounce of fluid. Nepenthe and fomentations were ordered, but there was next to no relief from pain. On Dec. 11th I had the patient anæsthetised with a view to removal of the suspected stone by lateral lithotomy, but when I sounded I could feel none. I found it impossible to inject more than half an ounce of fluid into the bladder. Now, however, there was to be felt a hard lump in the hypogastrium and as manipulation enabled me to pass the sound higher than before it was thought that the lump felt through the

abdominal wall might be a calculus lodged in a bladder diverticulum near the fundus. But the sound struck no hard substance. Lateral lithotomy was out of the question and accordingly I opened above the pubes and removed a calculus which Mr. W. H. Clayton-Greene, the surgical registrar, has thus described: "The mass was about the size of a large walnut and consisted of some 10 to 12 layers of laminated tough material in appearance like wash-leather and like the decolourised blood clot from an aneurysmal sac. The layers could be separated without difficulty. In the centre of the mass was found a soft friable nucleus of mixed urates and phosphates about as large as a kidney-bean. This was doubtless the origin of the trouble and round it blood had been deposited in laminæ which had gradually been decolourised." No bladder pouch was discovered and it is not easy to account for the deposition of laminated blood clot round a nucleus subjected, as it must have been, to the perpetual wash of urine. I have never seen anything like it before. After the operation the child was kept in a warm bath and recovery was uninterrupted. He very soon lost his pain and began to take as much interest in his surroundings as his idiot state would allow. He was discharged well on Feb. 10th.

THE MICROSCOPICAL OBSERVATION OF THE GLYCOGEN REACTION.

BY DR. G. SPEZIA.

THE microscopical reaction with iodine showing the presence of glycogen in the white corpuscles may occur under both physiological and pathological conditions.

Physiologically, I have observed it in the human subject during the digestive leucocytosis following hearty meals. Studying this phenomenon in guinea-pigs which did not show this reaction in their blood I succeeded in producing it very distinctly, not only with injections of peptone into the peritoneal cavity, as Gabrietschewsky did, but I obtained it even with subcutaneous injections of fats (olive oil), albuminoids (peptone), and carbohydrates (glucose). Physiologically, I have observed it also in pregnant guinea-pigs. I therefore place on record this reaction with the formation of glycogen by the action of various diastases from various nutritive materials which exert a positive chemiotaxic action.

Pathologically, I have observed that it is always accompanied by hyperleucocytosis in excess of that which has long been known to occur in suppuration and that it is manifested in the polynuclear neutrophile cells; it is found in inflammatory foci and also in the blood. In the blood it is the more evident in proportion to the closeness of the relations between the blood and the organs affected (as in croupous pneumonia, for instance).

The glycogenic reaction of the anæmias is found also in the hæmopoietic organs. This reaction is very evident in the sputa in inflammatory diseases of the lungs; in these cases I have observed it, not only in the white corpuscles, but also (and I believe that I was the first to do so) in the large phagocytes in which karyokinetic figures were displayed.

This reaction is the expression of a resistance of the organism to toxic agents, whatever be their origin, whether bacterial or not, a resistance which places in a circle (*il quale mette in circolo*) a substance (glycogen) which must serve to arouse an increased degree of defensive activity, as is proved by the following facts. 1. This reaction is manifested after the injection of various nutritive substances. 2. In pathological cases it attains its highest point in the inflammatory centre, as, for instance, in the foci of pneumonia or bronchopneumonia, in which I have observed droplets of glycogen of a size from 0·5 μ to 20 μ (from 0·00002 to 0·0008 of an inch). 3. It is greater in severe toxic affections than in mild ones. 4. It is accompanied by hyperleucocytosis. 5. It is accompanied by evidences of cellular division (for example, in tumours).

Turin.

NOTE ON A CASE OF HYDATID CYST OF THE SPLEEN.

BY FRANK R. SEAGER, L.R.C.P., L.R.C.S. EDIN., L.F.P.S. GLASG.,
HOUSE SURGEON, SALOP INFIRMARY, SHREWSBURY.

A BOY, aged 11 years, was admitted into the Salop Infirmary on Jan. 11th, 1903, under the care of Mr. A. Jackson, the senior surgeon, complaining of "a lump in the stomach on the left side." The history of the case was that four months previously he had first noticed a swelling below the ribs on the left side. The size of this swelling was not at first definitely noticed and there was no pain, but it gradually increased and the lad began to experience slight pain which he likened to "stitch." It was now noticed that the swelling varied in size, being larger after a meal and at night. There was no sickness and the pain was not aggravated by taking food. The bowels acted regularly. The family history was very good. As regards the habits of the boy it was elicited that he was fond of accompanying keepers in beating for game and that he used to drink freely of the water in brooks and to eat watercress which was plentiful in his neighbourhood. Physically he was robust and well nourished. In the abdomen a swelling of the size of a small orange was distinctly noticeable in the left hypochondrium, projecting from below the costal margin, with its centre just internal to the nipple line. Palpation of the tumour, beyond giving the sense of a cystic swelling, revealed nothing to suggest its nature or as to which was the organ affected. The percussion note was resonant over the tumour. There were no increase in splenic or renal dulness, no pain or tenderness on manipulation, and no appreciable movement with inspiration. The urine showed a trace of albumin. The diagnosis was thought to lie between a hydro-nephrosis or a hydatid cyst of some part.

Two days after admission an incision was made under an anæsthetic over the tumour and on opening the peritoneal cavity the spleen at once presented in the wound, with two-thirds of its anterior surface occupied by a tense, shining, yellow-coloured tumour which fluctuated on palpation. This was tapped and fully half a pint of clear limpid fluid was drawn off. The wound made by the tapping was then enlarged and a thick cyst-wall was shelled out in the ordinary way. The wall of the cavity was then stitched to the skin, a tube was inserted, and the rest of the wound was stitched. The boy made an uninterrupted recovery. The cyst was single with no daughter cysts.

For permission to publish this note, which I hope may prove of interest from the diagnostic point of view, I am indebted to Mr. Jackson.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Excretion of Alkalies in certain Conditions of Renal Disease.—Ehrlich's Dimethyl (p) Amido-benzaldehyde Reaction.—The Relation existing between Uric Acid Excretion and the Breaking Down of White Blood Corpuscles.

A MEETING of this society was held on March 3rd, Dr. W. D. HALLIBURTON, the Vice-President, being in the chair.

Dr. W. P. HERRINGHAM read a paper on the Excretion of Sodium and Potassium in cases of Renal Disease. In experiments on the toxicity of urine when injected into the blood of animals, an account of which was given to the society three years ago, he had been led to disbelieve Bouchard's explanation and to conclude, with Feltz and Ritter, Astachensky, and others, that all the symptoms seen in rabbits might be accounted for by the potassium salts held in solution. There was no necessary connexion between the toxicity of urine and uræmia. Indeed, it seemed to him probable that uræmia was not due to the retention of any normal product but to something abnormal. Nevertheless, he had thought it advisable to examine the excretion of sodium and potassium in renal disease to see if it varied from the standard of health. The standard of health was not, however, very certain, it varied within considerable limits. He had expected that if any marked change occurred in cases of nephritis it would be in the excretion of potassium. He found, on the contrary, that the great variation was on the side of sodium. In patients who died there was found a great, in some cases a complete, retention of sodium. He had made 16 analyses in 11 cases of chronic interstitial nephritis and of these six were fatal. In every one of them the sodium excretion was *nil* or very small. It was not so in any of the five cases which did not end fatally.

He had made 20 analyses in nine cases of diffuse or parenchymatous nephritis and of these two were fatal. Both showed complete absence of sodium from the urine on one or more days. None of the seven cases in which recovery resulted exhibited this. Thinking it might be due to diet or that the sodium might be passed in the fæces he had in one case of interstitial and in one case of parenchymatous nephritis analysed the diet, the urine, and the fæces for a series of days. These were included in the numbers given above. A man, aged 47 years, who died from chronic interstitial nephritis, with a dilated, hypertrophied, and fibrous heart, took during the last four days of life food containing 10·2 grammes of potassium and six grammes of sodium and excreted over 13 grammes of potassium but no sodium at all. A girl, aged 17 years, the subject of severe parenchymatous nephritis, took during eight days food containing 13 grammes of potassium and five grammes of sodium and excreted 13 grammes of potassium and 2·4 grammes of sodium. (This close approximation of ingesta and egesta was considered accidental. It was beyond what was possible in an investigation of this kind.) On three of these days she excreted no sodium at all by the urine. She did not die till 30 days after the end of the experiment. A man, aged 38 years, convalescent from pleurisy, was used as a control. In 11 days he took food containing 23·9 grammes of potassium and 9·3 grammes of sodium, and excreted in urine and fæces together 20·9 grammes of potassium and 10·1 grammes of sodium. The sodium was wholly excreted by the urine, the fæces containing none. That the excretion of urea and salts was uneven in renal disease had already been shown by van Noorden and his pupils. The diseased kidney did not accommodate itself to change so quickly as the healthy, but that did not apply to those patients who had been on the same diet for a long time. The results were very remarkable and if the absence of sodium was proved by further researches to be really an indication of fatal cases the analysis would be of importance in prognosis. Retention of sodium was not, however, peculiar to Bright's disease. Salkowski had already shown it to occur in several acute fevers. Dr. Herringham had also found it in two cases of large ascites repeatedly tapped. In one of them there was no sign whatever of kidney disease, but the other was a doubtful case. The latter had left the hospital and could not be traced; the former was still an in-patient. The retention could not be supposed to be due to inability of the kidneys to excrete sodium while excreting potassium freely. It must be due, therefore, to some need of sodium within the organism. In the case of a large ascitic effusion yielding roughly 20 pints every fortnight of a fluid containing 0·3 per cent. of sodium the need was obvious. But this did not seem to apply to the cases of interstitial nephritis which had little œdema. Dr. Herringham said that he owed special thanks to Dr. Kennedy Orton and to Dr. Hurtley, who had invented and elaborated the analytic process used, and to Dr. Hurtley for his coöperation, without which the analyses, which were very long and laborious, could not have been performed.

—Dr. G. C. GARRATT said that the retention of sodium in the body in the form of sodium chloride might be for osmotic purposes, or if not retained as sodium chloride the purpose could only be conjectured. This retention of sodium chloride within the body had been observed by Prout in persons about to die and it had been found that after death from uræmia there was an excess of sodium chloride in the tissues. He suggested that the alteration in the osmotic tension of the blood in uræmia was in some way related to the retention of the sodium salts. In fevers he had never found complete absence of sodium salts in the urine. If sodium citrate was given in fevers it was retained until the fall of temperature and presumably for the purpose of neutralising some acid condition. He was of the opinion, however, that the sodium salts were retained in renal disease for osmotic purposes.—Dr. R. HUTCHISON referred to the retention of chlorides in pneumonia, which he said had been attributed to cloudy swelling of the renal epithelium which frequently accompanied that disease. He doubted the observation and had undertaken some investigations as to the excretions of chlorides in renal disease and in all the cases examined (which were not advanced cases of renal disease) he had always found a fair amount of chlorides. He considered that the absence of sodium salts in the urine of the cases cited by Dr. Herringham was probably accounted for by the retention of the excess of serous fluid in the tissues owing to the imperfect secretion of water from the body which might be present in the later stages of renal disease.—Dr. HERRINGHAM, in reply, said that the amount of chlorides generally varied directly with the sodium. The sodium was probably retained in the body as sodium chloride. He agreed with the last speaker that the sodium chloride was probably retained within the body in the serum in the tissues.

Mr. H. W. ARMIT read a paper on Ehrlich's Dimethyl (p) Amido-benzaldehyde Reaction. He said that dimethyl (p) amido-benzaldehyde had the formula of $C_6H_4-COH-N(CH_3)_2$ and was found by Ehrlich to unite with a constituent of normal and pathological urine, forming a red-coloured body. The chemistry of this combination was not exactly known, but Ehrlich believed that the methylene group of the reagent joined with the unknown body in the urine, which he believed contained a pyrrol ring. Proescher had studied the chemistry of the red compound and gave as its approximate empirical formula $C_{17}H_{21}O_6N_3$, which would give the formula of the unknown body as $C_{11}H_{13}O_6N$, after subtraction of O and addition of water. After dealing with some points of the chemistry of the reagent Mr. Armit pointed out that other observers had employed a somewhat inexact method of testing in the cold but he had come to the conclusion that the test could be more usefully applied by the following method. To one cubic centimetre of urine, heated to frothing, 0·01 cubic centimetre of an acid solution (2 per cent.) was added and if the urine was coloured cherry red the reaction was positive, while if the drop was seen to fall through the column of urine like a red worm, or when, on the addition of more drops, the froth was tinted, and the colour only appeared on the addition of two such drops he called it a colour-change of the second degree, and when the colour appeared on the addition of the third drop a colour-change of the third degree. Clemens had tested a number of pathological urines, but his results were irregular. Koziczkowsky had used another method and had obtained results more like those which Mr. Armit had obtained. Among his cases of gastro-enteric diseases he obtained good positive reactions in two out of eight cases of typhoid fever during the acute stage, while five gave less good reactions. None of the 35 cases convalescent from typhoid fever gave reactions. Of three cases of acute appendicitis, one, which was complicated with fæcal fistula and pneumonia, gave a positive reaction and the other two gave no reaction, the abscess having been opened in both. Of the cases of gastritis, only three gave second and third degree colour changes. A number of other diseases were mentioned which gave no reactions. In acute infective processes no reaction was obtained in rheumatic fever, rheumatic endocarditis, variola, or erythema nodosum; two cases of pneumonia gave positive reactions, while two gave colour changes of the third degree. In both the cases where a positive reaction was obtained the patients were very acutely ill. One case of diphtheria during the acute stage gave a colour change of the second degree and was a moderately bad case, while two others which had been treated with antitoxin with apparent success gave no reaction. Of six cases of scarlet fever during the acute stage two gave colour changes of the second degree, one a colour change of the third degree, and three no reaction. None of the convalescing patients (fever) gave a reaction. One case of vaccinia, which was admitted into hospital with the diagnosis of typhoid fever and in which the patient was acutely ill, gave a positive reaction. 85 patients suffering from pulmonary tuberculosis were examined in this way. 16 gave reaction up to the third degree and eight gave positive reaction, including one case of acute phthisis in whose sputum many cocci as well as tubercle bacilli were found. A second case of acute phthisis, where tubercle bacilli were present in the sputum in almost pure culture, showed no reaction. No reaction was met with in miliary tuberculosis. One case of bronchitis gave a change of colour, probably of the second degree; all the others gave no reaction. In influenza the antipyrin prescribed for the pains produced some colour changes. In infective endocarditis all the cases gave a positive reaction. In early septicæmia and in the severer forms of sapræmia the reaction proved positive. In all he examined over 350 specimens of urine. The diazo test did not correspond with this test. Since all the patients who gave positive reactions were in fever and were sweating he sought to find out if sweating could produce it. Injecting pilocarpin nitrate into himself only increased the reaction slightly, as did hard exercise. Mr. Armit came to the conclusion that the unknown body was either excreted in larger quantities or was manufactured in larger quantities under certain conditions of

increased destructive metabolism, and he believed that the action of certain toxins, especially some coccic toxins, produced it. From a clinical point of view he regarded the positive reaction as indicating a very grave prognosis and he pointed out that while a colour change of the second degree might assist to a correct diagnosis in some circumstances a positive reaction when there was clinical evidence of endocarditis pointed to the affection being infective. The colour combination could be demonstrated in the tissues and he described some experiments on rabbits which showed that the unknown body was stored up in large quantities in the perichondrium and in smaller quantities in the white matter, kidney, liver, and mesentery in animals which had died from diphtheria toxæmia. Papenheim suggested that the body was urobilin, but Mr. Armit was able to disprove this. The urine of a horse suffering from tetanus gave the reaction well. Horse's urine was supposed to be free from urobilin, and in this case Jaffé's and Gerhardt's tests were negative. The filtrate after precipitation with acetate of lead gave some colour change. Urobilin was increased in all cases of pyrexia, while the unknown body was not constantly increased. Several compounds were capable of joining dimethyl-amido-benzaldehyde to form red colour bodies, but Mr. Armit came to the conclusion that the pathological reaction was formed by the union of the reagent with only one body, the chemical nature of which was not known. It might contain either a pyrrol or a benzol ring.—Dr. A. E. GARROD criticised the correctness of the formula of urobilin given by Mr. Armit.—Dr. P. HORTON-SMITH asked whether the presence of the reaction in patients with chronic tuberculous disease was of grave prognostic significance.—Mr. ARMIT, in reply, said that the prognosis was bad in cases of chronic pulmonary tuberculosis in which the reaction was present.

Dr. O. K. WILLIAMSON read a paper on the Relation existing between Uric Acid Excretion and the Breaking Down of the White Blood Corpuscles. The conclusions arrived at by previous workers at this subject did not agree. Horbaczewski, however, demonstrated the relationship experimentally, whilst of the clinical observations those of Kühnau alone carried conviction. It was pointed out that isolated observations of uric acid excretion and of the white blood count at a corresponding time were of less value than continuous observations extending over a considerable period of time showing the corresponding variations. The observations recorded, therefore, were carried out on the latter lines. The object aimed at was to determine whether an increased destruction of the white corpuscles as opposed to a diminished production was followed by an increase in the excretion of uric acid. This increased destruction would seem to be taking place, firstly, whenever a fall in the number of white corpuscles was followed by a rise in the amount of phosphoric acid excreted; secondly, a diminution in absolute number of the older forms of the white corpuscles, whilst the young cells did not correspondingly diminish, would also point to an increase in destruction. If, however, the young cells, as distinguished from the older forms, diminished markedly in number, this would indicate a diminished production. In order, then, to determine the times of increased destruction daily estimations of the amount of phosphoric acid in the urine were made and, corresponding to the daily white blood counts, differential counts from stained films. Eleven patients, most of them suffering from pulmonary tuberculosis, were chosen for the observations which were recorded in tables and curves. These showed (1) that in nearly every case in which a rise of the phosphoric acid curve followed a fall in the white corpuscle curve this rise corresponded with a rise in the uric acid curve; (2) that in the majority of cases confirmatory evidence of increased destruction could be obtained from a study of the differential counts; (3) that in those cases in which there were sudden and marked variations in the white corpuscle curve there were similar variations in the curves of uric and phosphoric acid; and (4) that in the case of the children the amounts of phosphoric acid and uric acid excreted were relatively greater than in the case of the adults and that the rises in the curves of phosphoric and uric acid followed more rapidly on the fall of the white corpuscle curve than in the case of the adults.—Dr. HALLIBURTON said that he thought that it had been proved that uric acid originated from nuclein, either from the food or from the metabolism of the body. He considered that undue stress was often laid upon the conditions of the leucocytes and investigators forgot the small volume occupied by the white corpuscles. If all the white blood corpuscles were destroyed every day the products of destruction would only form a very small quantity of the uric acid often excreted. The glandular cells of the liver, lymphatic gland, and other tissue contributed the larger share of the uric acid.—Dr. W. D'E. EMERY suggested that the phosphorus resulting from the destruction of the white cells was often retained within the body and was not excreted.—Dr. HUTCHISON asked if Dr. WILLIAMSON had made any observations with regard to the condition of the uric acid secretion in cases in which there was a diminution of white corpuscles.—Dr. WILLIAMSON replied.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 27th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. LEONARD S. DUDGEON exhibited three cases of Volkmann's Contracture. The first case was that of a child, aged five years, who had fractured the right upper arm near the elbow-joint in December, 1900. When put in plaster the fingers had become swollen and cyanosed and a pressure sore had formed on the flexor aspect of the forearm. In January, 1903, the forearm was found to be shortened and strongly pronated, the position of the hand and fingers being quite typical. Passive movement, massage, and faradism had resulted in very slight improvement. The second case was that of a boy, aged nine years, who had met with an injury to the left forearm two and a half years before. A pressure sore had also resulted in this case. In March, 1901, the patient was taken to St Thomas's Hospital and the electrical reactions showed partial reaction of degeneration. There was also partial motor and sensory paralysis in the region of the forearm. In February, 1902, Mr. H. H. Clutton had performed resection of the radius and ulna. Under daily massage great improvement had taken place. The third case was that of a boy, aged eight years, who had injured the left forearm in December, 1901, after which the arm became shrunken, the fingers contracted, and there was sloughing on the forearm. In September, 1902, the child was taken to St. Thomas's Hospital, the hands and fingers then being in the typical position. In October Mr. Clutton excised three quarters of an inch from the radius and ulna. Great improvement had resulted.

Mr. H. B. ROBINSON showed a case of Dislocation of the Long Tendon of the Biceps Flexor Cubiti. The patient, who was aged 27 years, had had the head of the *left* humerus excised in St. Thomas's Hospital on Sept. 19th, 1900, by the late Mr. William Anderson for recurrent dislocation. Recurrence had occurred nine times in the preceding three years. The result had proved most satisfactory. Six months previously he fractured the right clavicle which united rapidly. On Jan. 3rd last he fell from a van and subsequently noticed that the *right* arm could not be brought properly to the side. The position of the arm was characteristic. The humerus was abducted and inwardly rotated to a slight extent; the shoulder-joint being then fixed attempted movement was attended by rotation of the scapula. The malposition could be easily rectified, after fixing the scapula, by bringing the elbow forward, thus relaxing the biceps, and then rotating outwards. The condition was apparently associated with an abnormal laxity of the joint capsule and an increased play of the tendon in its groove.—Mr. A. PEARCE GOULD suggested that the abnormality might be due to a hypertrophied synovial fringe.—The PRESIDENT was not convinced that it was dislocation of the long tendon of the biceps. This displacement generally took place inwards and not outwards. The case, he urged, should be thoroughly investigated.—Mr. ROBINSON, in reply, thought that the joint might be explored but asked what ought to be done if it proved to be a dislocation of the tendon. He did not think that it was indispensable to remove the head of the bone as on the other side.

Mr. T. H. KELLOCK showed a case of Varicose Internal Saphena Vein in a child, aged seven years. The condition was first noticed accidentally about a year ago. The course of the vein seemed to be slightly abnormal, passing towards the inner surface of the thigh. Varicosity was also noticeable at the inner side and front of the patella, behind the internal malleolus, and over the inner side of the foot. No

cause could be discovered.—Mr. PEARCE GOULD said that he had never seen varicosity in so young a female patient, though varicocele was met with in male children. He thought that this condition supported the view that varicosity was not due solely, or even chiefly, to increase in venous pressure, but rather to over-development of the venous tissue akin to venous nævus.—Mr. HARRISON CRIPPS recalled the case of a girl, aged 15 years, who had enlargement of the whole limb, but in her case there was also involvement of the lymphatics. In Mr. Kellock's case the limb was slightly longer and the foot was somewhat bigger than on the other side; in fact, the case resembled incipient giantism.—Mr. KELLOCK, in reply, admitted that the limb was about a quarter of an inch longer than the other, but there was no indication of the lymphatics being involved. He proposed to remove a piece of the vein.

Dr. H. D. ROLLESTON and Dr. W. L. ASCHERSON exhibited a case of Acute Lymphatic Leukæmia. The patient was a female child, aged seven years, whose leading symptoms were debility, pallor, and shortness of breath. There was a recent history of transient facial paralysis and lately her skin had bruised very readily. A day or two before admission there had been pyrexia, epistaxis, and bleeding from the throat. When admitted there was still some bleeding from the gums and the tonsils, the glands were enlarged on both sides of the neck and in the left axilla, and the spleen extended to three inches below the costal margin. Examination of the blood showed 2,320,000 red corpuscles per cubic millimetre; there were some poikilocytosis and irregularity in the size of the individual corpuscles; the hæmoglobin amounted to 30 per cent.; and the leucocytes numbered 60,000 per cubic millimetre, of which polymorphonuclear cells amounted to 3·3 per cent., hyaline leucocytes 1·8 per cent., and lymphocytes 95 per cent. The lymphocytes were for the most part large and showed characteristic fraying of the edges and irregularity in shape.—Dr. J. ROSE BRADFORD questioned whether the case was really acute and suggested that it might be a case of some standing in which the symptoms had suddenly become more prominent.—Dr. ROLLESTON pointed out that the patient had markedly improved under treatment.

Dr. A. E. RUSSELL exhibited a case of Syringomyelia with Dissociative Anæsthesia, Neurotrophic Joints, Muscular Atrophy, and Exaggerated Knee-jerks. The patient was a man, aged 50 years, with well-marked atrophic arthropathy of the left wrist and carpal joints. Both shoulders creaked on movement and the left had a tendency to swell on attempting to work. The dissociative anæsthesia was distributed over both hands and arms, neck, scalp, and trunk down to the level of the fifth thoracic segment. There was considerable muscular atrophy of some of the intrinsic muscles of the right hand, especially of the abductor indicis. The knee-jerks were greatly exaggerated but the gait was not spastic.—Mr. A. A. BOWLBY recalled a case in which the patient complained of pain, &c., in the shoulder, associated with characteristic destruction of bone, but this destruction was more apparent on the parts external to the joint. He suggested the desirability of obtaining a radiogram of the joint.—Dr. RUSSELL, in reply, said that the rays showed considerable changes in the bones.

Dr. W. PASTEUR exhibited a case of Cerebro-spinal Meningitis with Optic Neuritis accompanied by complete loss of sight, followed by partial recovery of vision of an unusual character. The patient was a woman, aged 22 years, in whom there was no evidence of syphilis. The present illness began in September, 1902, with severe occipital headache, pains in the arms and legs, vomiting, strabismus, and sleeplessness. On admission to hospital in October the leading symptoms were rigidity of the muscles of the neck, marked paresis of the arms and legs, absence of knee-jerks, and Babinski's sign. She began to improve after Oct. 22nd, at which time the sight was totally lost and there was optic neuritis. The latter began to subside and vision was partially recovered on Nov. 4th. In December she could not tell light from darkness but was able to distinguish a hand or a book. In January there was marked atrophy of both optic discs and she was still unable to see an electric light held close to her face, but she recognised the shapes of objects. In February she was recovering her vision for light and muscular power had been almost completely restored.—Dr ROSE BRADFORD referred to a patient under the care of Mr. John Tweedy who could not distinguish between light and darkness, though he could distinguish forms. He thought that this curious condition had been described by certain German observers.

Mr. RAYMOND JOHNSON showed a case of Webbed Arm in a lad, aged six years. The anterior fold of the right axilla was prolonged downwards in the form of a web which passed to the inner side of the elbow. The pectoralis major was either absent or represented merely by a few fasciculi of the clavicular portion. In the free border of the web could be felt a slender fibrous cord, ending below at the internal condyle of the humerus and at its other extremity terminating in a muscular fasciculus attached apparently to the second costal cartilage (the chondro-epitrochlearis muscle). There was impaired development of the whole upper extremity and the four inner digits were webbed. The right scapula was smaller and lay at a higher level than the left.

Dr. H. BATTY SHAW exhibited two cases of Graves's Disease occurring in father and son. The father, aged 46 years, had been suffering from weakness for the last four years. Exophthalmos of slight degree was noticed a little over two years before and a month or two later the neck was found to be swollen. He was a very nervous subject and was frequently troubled with palpitation. There were also tachycardia, tremor of the hands, and retraction of the upper eyelids, and von Graefe's sign was well marked; flushing of the face was common and the skin generally was moist. The enlargement of the thyroid gland was greater on the right side than on the left. His son, aged 21 years, had always been rather nervous and there appeared to have been for several years some prominence of the eyeballs. Nearly two years before he met with a rather severe bicycle accident and since then had noticed marked palpitation and he stated that the eyes had been more prominent since the accident. The pulse-rate was about 120 to the minute, there was marked tremor of the hands, especially the right, and the eyes were prominent. There was also enlargement of the thyroid gland. Albumin was present in the urine, sometimes only a trace, sometimes a well-marked cloud.—Dr. S. P. PHILLIPS said that he had met with the disease in mother and daughter. He had seen the second of Dr. Shaw's cases previously, the chyluria having ceased in 1901.

Sir HUGH R. BEEVOR exhibited Skiagrams of a case of Pneumothorax.

EPIDEMIOLOGICAL SOCIETY.

Risk of Introduction of Yellow Fever into Asia.

A MEETING of this society was held on Feb. 25th, Mr. SHIRLEY F. MURPHY being in the chair.

Dr. PATRICK MANSON, F.R.S., read a paper on the Panama Canal and the Risk of the Introduction of Yellow Fever into Asia. The diffusion of disease by insects and especially by mosquitoes as intermediary hosts of the specific hæmatozoa was, he said, a subject presenting problems of surpassing interest and the recent inclusion among those thus propagated of yellow fever, the scourge of tropical America, the etiology of which had hitherto baffled investigation, was full of promise, giving a far less hopeless aspect to the question of its prevention. He would confine his remarks to (1) the risk of the extension of the fever to the populous regions of Asia involved in the opening of the Panama Canal to which the Government of the United States was pledged; and (2) the means to be adopted for lessening the risk. Shiploads of labourers from China, Japan, and India would soon be plying between Panama and the seaports of Asia, and if the traffic were unrestricted the disease would inevitably be introduced into the populous, densely crowded, and insanitary cities of China and India, where its ravages would be incomparably greater than they could be in the sparsely peopled countries and smaller cities of South America. The Epidemiological Society had a duty and an opportunity that it could not ignore to impress on the Governments of the civilised world the urgency of the occasion. The freedom from yellow fever hitherto enjoyed by Asia was, like that of America until recently from cholera and the plague, due, not to any conditions unfavourable to its spread, but to the absence of direct communication with the localities where it was endemic, California and Chili lying beyond the fever zone on either side of the equator. It was true that the parasite was present in the blood for a few days only at the commencement of the fever, but if taken from the patient during this period by a mosquito it retained its vitality in the body of the insect for eight or ten weeks and

might be at any time communicated by its bite to previously healthy individuals. The yellow fever patient was in himself no more dangerous to others than was the sufferer from malaria and it was the stegomyia that, like the anopheles, conveyed the germs from him to others, infecting them in turn. It was thus quite possible for a ship, the crew of which were perfectly healthy not only on sailing but throughout the voyage, to convey the disease provided the passage did not exceed, say, ten weeks. Stegomyiæ that had recently bitten a fever patient got on board in the harbour and might or might not attack the crew; when the vessel put to sea they sought shelter in the hold and if sugar, fruit, or other food or rats were accessible probably did not leave their hiding places until disturbed by the discharge of the cargo at the port of arrival, when the infected insects attacked those who, whether members of the crew or labourers belonging to the port, were engaged in the work of unloading. Cases might or might not occur during the voyage, but it was not they but the infected stegomyiæ that would introduce the disease into the new locality. In one or other way yellow fever had been carried to every seaport on the eastern coast of America between lat. 38° N. and 38° S., as well as to Peru on the west coast. In Africa it was still limited to the west coast, north of the equator, and in Europe, though it had never become endemic, the footing it temporarily obtained at Lisbon in 1853 proved that such a contingency was not impossible. The stegomyia fasciata was the most widespread, but other species could serve equally well as hosts, so that no country in the tropical or warmer temperate zones was safe. Such being the etiology of yellow fever it was evident that it could not be carried by cargo or fomites, nor even by infected persons, to places where stegomyiæ were absent. Quarantine and disinfection of cargo were alike useless, the sole means of prevention being the extermination of the stegomyiæ, for which, so far as shipping was concerned, sulphur fumigations of the hold and between decks were the most efficient, with the destruction of the larvæ in the bilges and water tanks. On land the war must be conducted on the same lines as had been employed against the anopheles. That this was feasible had been amply proved by the Governor, General Wood, himself a medical man, and Dr. Gorgas at Havana. There the deaths for the past ten years had averaged 467 per annum, but between April, 1901, and March, 1902, there had been only five deaths and since that time there had not been one. He trusted that the Americans, though they had no direct interests in Asia, would carry out the sanitary control of the canal with equal thoroughness, but it would be advisable that the civilised powers most concerned, such as England, France, Germany, Holland, Italy, Japan, and Siam, should constitute an international board of supervision and subvention. The measures he would recommend were simple enough but must be inexorably enforced. Every vessel coming from, or having called at, a port within the yellow fever zone should be boarded on entering the eastern end of the canal by an officer and assistants whose duty would be to destroy by fumigation and other means all stegomyiæ on board and before leaving the canal it should be inspected by others who should satisfy themselves of the completeness of the work. To prevent the infection of a vessel in its passage through the canal the country for half a mile on either side should be cleared of trees, standing water, and everything that could afford shelter for mosquitoes or their larvæ. Dr. Manson remarked that all that was known of the etiology of yellow fever was due to the labours of a band of American epidemiologists, Major Walter Reed, Dr. Carroll, Dr. Lazear, Dr. Agramonte, and Dr. Guiteras, the pioneer being Major Reed who, though he never saw the hæmatozoon itself, having satisfied himself of its transmission by the stegomyia, applied this knowledge with the brilliant results that had been obtained at Havana. Major Reed and Dr. Lazear, however, died martyrs to their work.

Dr. NUTHALL remarked that the extinction of yellow fever in Havana had removed a great danger from the United States, since in every epidemic in Florida and the valley of the Mississippi the disease had been introduced from that port. The mosquitoes, stegomyia fasciata or other species, were very retentive of vitality so long as they had access to water, as in the holds of vessels in the water tanks of which the larvæ might be seen in thousands. It was as insecticides, not as germicides, that sulphur fumigations had been found successful. He might mention that one epidemic in New Orleans had cost the city 10,000,000 dollars in various ways.

Dr. STRONG stated that yellow fever had recently been very prevalent in Panama and was constantly carried from one port to another on the esat coast of South America. He described at some length the several importations into western and southern Europe and said that at least six instances had been recorded recently of its conveyance by ships on which no cases had occurred. The distance between Panama and Honolulu was less than that between Rio de Janeiro and Naples.

Dr. BOUSFIELD, who had been through several outbreaks in the West Indies, complained of the apathy of the British authorities even when convinced of the truth of his representations. The only preventive work in respect of malaria—that at Sierra Leone—was due to private enterprise; the colonial governments would do nothing.

Dr. LOUIS SAMBON insisted on the necessity for immediate action, the danger being more imminent than Dr. Manson represented, since a steam service would very shortly be opened between China and Mexico, and should the disease once be introduced into China it would rapidly spread to Japan, India, and Australia. The prophylaxis was simple, but the difficulties presented by popular ignorance and official apathy were well-nigh insuperable.

LIVERPOOL MEDICAL INSTITUTION.

Human and Bovine Tuberculosis.

A MEETING of this society was held on Feb 26th, Mr. RUSHTON PARKER, the President, being in the chair.

Dr. NATHAN RAW read a paper upon Human and Bovine Tuberculosis. He commenced by saying that Professor Koch, the greatest authority upon tuberculosis, in an address at the British Congress on Tuberculosis in London in 1901 greatly disturbed the scientific world by announcing his now well-known theory that human and bovine tuberculosis were separate and distinct diseases and that bovine tuberculosis could not be conveyed to man. Now, it must be admitted that the great body of experimental evidence was in favour of Koch's first contention that the two diseases were distinct. Phthisis pulmonalis was essentially a disease of young adult life. It was rare to see it as a primary affection under the age of 12 years, the great majority of deaths taking place between the ages of 30 and 40 years, as his tables would show. On the other hand, strumous or tuberculous joints, enlarged joints, spinal disease, and abdominal tuberculosis with tabes mesenterica were essentially diseases of infancy and childhood and were only rarely seen in adult life. From these general clinical and pathological observations Dr. Raw inclined to the opinion that primary intestinal tuberculosis, tabes mesenterica, and other tuberculous affections of the serous membranes in children were probably bovine tuberculosis conveyed by milk and were not in any way related to human tuberculosis, although the bacillus of Koch was found in them all and was identical. Veterinary authorities, such as Nocard, Bang, Dollar, and McFadyean, agreed that about 30 per cent. of dairy cattle suffered from tuberculosis. Dr. Raw wished to point out that the infection commenced in the mesenteric glands from the intestine, slowly spread to the retro-peritoneal glands, then through the diaphragm to the glands in the posterior mediastinum, and finally to the lungs. If the child lived long enough the brain might be affected too. At necropsies this process had been corroborated again and again. Dr. Raw remarked that taking all these facts into consideration and after a careful study of tuberculosis in all its forms during the last ten years, he was of opinion that bovine tuberculosis was very virulent for children and was accountable for tabes mesenterica and other varieties of abdominal tuberculosis—in fact, that it was more virulent to children than was human tuberculosis. There was much evidence, also, that acute miliary tuberculosis, especially that of the typhoid form, was in reality a bovine tuberculosis produced by ingestion of food. Since the two diseases could not exist together in cattle, might it not be that they could not exist together in man? and that the serum of a cow affected with tuberculosis might have a curative effect in a case of pulmonary phthisis exactly on the same lines as small-pox and cow-pox? Who knew?—it was only an idea, but in the treatment of such a fell disease anything was worth consideration. It would appear, therefore, that infants and young children with a feeble power of resistance were susceptible to bovine tuberculosis, more especially if they were fed for a prolonged period on infected milk, but that as age advanced the susceptibility

decreased, until at adult life there was little risk of more than a purely local affection of the glands of the neck, which, however, might occasionally extend directly to the lung, and even result in a general miliary tuberculosis. Considering that tuberculosis was so common, and even increasing, in this country among dairy cows, something ought to be done by the legislature to prevent the wholesale distribution of tuberculous milk to the public. A more rigorous inspection of dairy cattle should be made by the health authorities and as it was perfectly easy and certain by the tuberculin test to diagnose a tuberculous cow there should be no difficulty in at least eradicating the disease from dairy cattle. The onus of responsibility of supplying pure milk to the public should not rest on the health authority but on the producer, and although the health authority could do a splendid and humane work by providing the community with sterilised milk at a cheap rate, still the real responsibility must be with the man who actually delivered milk for sale to the public. Dr. Raw concluded by expressing the opinion, based almost exclusively upon clinical and pathological evidence, that human and bovine tuberculosis were separate and distinct diseases, as shown by Professor Koch, but that the human body was susceptible to both, and especially to bovine tuberculosis in the early periods of life. The two diseases were so rarely seen together in the human body that there seemed to be some ground for presuming that they were antagonistic to each other and that bovine tuberculosis might possibly confer an immunity against human tuberculosis. If this opinion should prove correct he ventured to submit that it would entirely reconcile the conflicting opinions which had been so frequently expressed during the last two years on that most terrible of all diseases.

The PRESIDENT said that opinions formed upon a question of this kind were based partly upon clinical impressions and partly upon scientific considerations. He thought that they were in need of pure science to control the impressions which they were tempted to rely upon. He had himself not gone much into the intimate pathology of the question. He had originally operated for the purpose of removing the local disease. An experience of 30 years had satisfied him as to the correctness of this procedure; he had only met with phthisis pulmoralis four times out of about 300 patients.

Dr. W. CARTER recognised the ingenuity of Dr. Raw's suggestion of two different diseases, but he considered that the view that true human tuberculosis could not be communicated by bovine tuberculosis was too absolute and was disproved by recorded facts. If the words had been "is not generally communicated" he, like everyone else, must have assented. It was too early to dogmatise. He thought that the difference of results probably depended on difference of soil, the seeds being identical.

Dr. R. CATON admitted that apparently two forms or types of tuberculosis occurred in the human subject: (1) pulmonary phthisis; and (2) tubercle of glands, bones, and nervous organs, and that usually the course and termination of the two types presented marked differences. This fact supported Dr. Raw's interesting generalisation. Dr. Raw's theory, if fully demonstrated, would have most important practical results.

Dr. W. ALEXANDER said that he had had 62 cases in the last three years, and out of 885 babies in the Liverpool workhouse hospital 82 were diagnosed as suffering from marasmus or tabes mesenterica. A good many cases of tabes mesenterica recovered completely, so that it was probable that in many cases the disease was not tuberculous. The children who suffered from this disease belonged to the lowest class of society. They lived on small quantities of milk which was used without being sterilised. Many of them suffered from attacks of intestinal and gastric catarrh through improper quantity or quality of food and these attacks produced enlargement of the glands in just the same way as eruptions of the scalp and discharge from the ear produced enlarged glands in the neck. If the intestinal condition recovered the glands lessened in size, but if the condition was prolonged for a sufficient time the microbe of tubercle gained admittance and they had tuberculous disease just as happened in the neck or glands elsewhere. If Dr. Raw's views were correct they would have to go back to the sterilisation of milk. Dr. Alexander hoped that the whole subject would be promptly investigated.

Dr. A. S. F. GRÜNBAUM agreed with Dr. Raw that tabes mesenterica was due in many cases to milk carrying bovine tubercle bacilli. Experiments on anthropoid apes tended to confirm this view. Dr. Raw's isolation of the bovine bacillus from a mesenteric gland was the first published confirmation of Ravenel's results in the same direction. But that was no reason for considering the diseases produced separate and distinct. It seemed probable that the disease was one and the same. Whatever the source of the bacillus, although undoubtedly more virulent when of bovine origin, the lesions produced by the inoculation of either form were practically the same.

Sir W. M. BANKS said that if Dr. Raw's thesis were true then persons dying from phthisis need not specially show any signs of having been afflicted during childhood in any marked degree with tabes mesenterica, diseased cervical glands, or articular trouble. It was his conviction that children who suffered from glandular and articular diseases did not suffer in later life in any marked degree from phthisis. He therefore was opposed to the dissections of the neck sometimes practised. These children died from exhaustion and waxy disease when they did succumb. For himself he found a difficulty in looking upon bovine and human tuberculosis as two absolutely distinct diseases. He would prefer to call them variants of the same disease affecting each its own locality. The seeds of the various kinds of cabbage did not show notable differences of appearance, but the wild progenitors of the edible flourished in the sea while the big cultivated cabbage would only grow on good land. Soil in this question probably had much to be reckoned with.

Dr. J. HILL ABRAM said he had never been convinced of the soundness of Koch's theory. He would like to draw attention to the following point: Koch's great dividing characteristic between bovine and human tubercle was the non-communicability of the two organisms to human and bovine respectively—i.e., human to cow and bovine to man. Ravenel's, and now Dr. Raw's, cases shattered Koch's theory and restored the unity of tubercle.

Other speakers followed and Dr. RAW replied.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 17th, Dr. H. J. Campbell, the President, being in the chair.—Dr. F. W. Eurich brought forward a communication upon the Treatment of Epilepsy, chiefly with reference to the theory that there is in epilepsy an excessive storage of sodium chloride in the body. He detailed a number of cases which had been very successfully treated by comparative privation of salt and its replacement as an article of diet by sodium bromide, about half an ounce of which was taken each week. In one case intermission of the fits had been procured, when the patient began to take salt again freely. The fits at once recommenced but were stopped again when the ingestion of salt was discontinued. Trinitrin in occasional doses was useful in relieving headache.—The President, Dr. A. H. Robinson, Mr. S. W. Rhodes, Dr. A. H. Bampton, and Dr. J. Metcalfe took part in the discussion.—Dr. R. A. R. Lankester read a paper on the Administration of Anæsthetics with some remarks on Somnoform. Ether, he said, was undoubtedly safer than chloroform and ought to be used in all cases where it was available. The preliminary administration of nitrous oxide was strongly advocated in ether cases, as being more pleasant, quicker, and safer for the patient. In prolonged operations the sequence of nitrous oxide, ether, and chloroform was advocated, the change to chloroform not to be made during struggling or during deep ether anæsthesia. Ether was quite suitable for children six years of age and upwards. If nitrous oxide was not available as a prelude to ether a few whiffs of chloroform or mixture of ether and chloroform might be given till the patient was partly unconscious. Oxygen might be an important adjuvant to ether in cases of spasm such as might occur in alcoholic or asthmatic patients. Mixtures of ether and chloroform were of value in old persons, very fat subjects, and those with severe emphysema and bronchitis. These mixtures were wasteful and had many of the dangers of chloroform. Chloroform ought to be given without closed apparatus of any kind, so that there might be no doubt about the admission of plenty of air. Somnoform, he said, was a mixture of 60 parts of ethyl chloride, 35 parts of methyl chloride, and five parts of ethyl bromide. The components had been arrived at by physiological experiments. The advantages claimed for it were (1) that no cumbersome apparatus was required; (2) that

its action was very rapid; (3) that the return to consciousness was rapid; and (4) that it was very safe. It was administered by spraying it into a mask which fitted closely on the face. The patient's colour remained good, the respirations were regular and deep, and became sonorous when anæsthesia was induced. The pulse was slightly quickened and the tension was increased. There was slight rigidity which passed off as the anæsthetic was pushed, the conjunctival reflex was lost, and the pupils became dilated and fixed. When this point was reached the mask was removed as the patient was fully "under." The period of anæsthesia was quite one and a half minutes. Somnoform was available for cases requiring a rather longer period of anæsthesia than could be obtained by nitrous oxide and where otherwise chloroform or ether would be used. The patient was generally able to walk away a few minutes after the administration. There was not as a rule any vomiting.—Dr. J. G. Moffat showed the pieces of a Uric Acid Calculus weighing seven and a half ounces which had been removed from the bladder through the perineum after lithotrity had been performed.—Dr. William Craig showed Fœtal Bones extruded from an abdominal abscess 18 months after probable rupture of an ectopic gestation.—Other specimens were shown by Mr. C. F. M. Althorp, Dr. R. H. Crowley, Dr. T. J. Wood, and Mr. F. E. Meade.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Feb. 20th, Dr. J. E. Gemmell, the President, being in the chair.—Dr. W. E. Fothergill (Manchester) showed a specimen of Hyperplasia of the Thyroid Gland from a Fœtus in a case of Eclampsia.—Professor A. M. Paterson showed a Uterus having a Utero-Vaginal Septum.—Dr. D. Lloyd Roberts (Manchester) showed an Ovarian Tumour which with its contents weighed 30 pounds. It was removed from a woman, aged 60 years, and contained 16 pints of brownish, grumous fluid.—Dr. Fothergill recorded a case of Hyperpyrexia associated with Thrombosis of the Vena Cava Inferior. The patient was delivered by a midwife on March 21st, 1902. Fever set in and became intensified until the patient's removal to hospital on the fifth day. Improvement followed intra-uterine douching at first, but a relapse occurred on the 31st, so the uterus was curetted, several pieces of placenta being removed. On April 6th the temperature reached 111·2° F. but was reduced to 107° by hot sponging. Thrombosis of the right femoral vein was quickly followed by involvement of the left and from this time onwards till the patient's death on May 14th there were no special symptoms except increasing weakness, though the temperature continued high and remittent, with repeated rigors. There was no sign of suppuration or embolus in any other organ. The immediate cause of death was œdema of the lungs. The necropsy showed that the uterus and other pelvic organs were normal; there was no sign of general or pelvic peritonitis; the inferior vena cava and its tributaries were filled with ante-mortem clot from the heart downwards. He was inclined to regard the curetting as the cause of the thrombosis.—Dr. A. C. F. Rabagliati (Bradford) referred to cases in which temperatures of as much as 120° had been recorded and held that mere elevation was not so important as variability of temperature. He suggested that the thrombosis might have been due to some general condition—e.g., hyperinosis of the blood.—Dr. J. B. Hellier (Leeds) read notes of a case of Double Pregnancy in a Double Uterus. The patient, aged 34 years, had had three normal labours previously. During the fourth pregnancy the uterus was larger than usual. After a normal labour a female child was born, head first, the placenta following. The presence of a second child was discovered, but the medical attendant on introducing his hand found the uterus empty. Dr. Hellier found a second os lying high up in front of, and to the left of, the other, and delivered a male child by podalic version. The uterus was bicornate, a fairly thick septum dividing the two cavities, and there were two separate ora uteri opening into a single vagina.—Dr. H. Briggs said that he had seen three cases of the kind and he confirmed Dr. Hellier's account of the relative positions of the two ora uteri.—Dr. T. Arthur Helme (Manchester) read a short communication on Dilatation of the Cervix Uteri in Eclampsia of Pregnancy by means of Bossi's dilator. Dr. Helme found that this dilator could effect full dilatation in 20 minutes, another ten minutes being required for complete delivery with forceps. He had been surprised by the ease and comfort with which the instrument could be used without any laceration of the cervix and thought this means afforded a marked contrast with manual dilatation and its frequently accompanying discomfort and cramp.—Mr. S. Rumboll (Leeds) said that he had used Bossi's dilator in a case at the sixth month and he preferred it to fingers and Barnes's bags. It was easily used and did not tear the cervix.—Dr. A. Stookes and Dr. Glynn Whittle also took part in the discussion.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 25th, Dr J. Nigel Stark, the President, being in the chair.—Dr. J. K. Kelly opened a discussion on the Diagnosis and Treatment of Suppurative Conditions in the Pelvis. He divided the cases into two groups according to their situation; the first was invasion of the connective tissue, the second of a closed cavity either natural or acquired. With regard to division of the cases according to the etiology, those occurring in the puerperium were usually from infection of the cellular tissue, while in the non-pregnant cases the preformed cavities were usually involved. There were exceptions, of course, to the rule. The reason for this selection of tissue was obvious. During delivery traumatisms were frequent and injured tissue was easily infected. The cervix being the most commonly injured the course of the infection was through it to the pelvic cellular tissue. The infection, after invading the broad ligaments, usually passed forwards and became subcutaneous above Poupart's ligament. Occasionally, however, the route took a posterior turn and the track extended upwards as far as the kidney; the abscess might point in the loin or even burst into the pleura. It was fortunate that these collections tended to open externally. In the non-pregnant cases the track taken by the infection was along the mucous surface. After a chronic endometritis the tube was apt to become implicated and when this took place the abdominal ostium became closed and pus collected in the tube. The ovary when it became the seat of the disease formed either a large pus cavity or a number of smaller ones. Further extension of this infection involved the bowel and the peritoneum, &c. The progress of the malady was according to the situation. When the cellular tissue was involved the infection worked its way to the surface while when in a closed cavity its progress was more difficult. Thus in long-standing cases the virulence of the infection became less and might disappear altogether. With regard to the differential diagnosis the history, location, and course were all different in the two types. In cellular abscess there were parturition and injury; in pyosalpinx there was no injury save gonorrhœa, long-standing endometritis, or the fact of intra-uterine medication having been resorted to. The treatment of the condition was relative to its nature. When the connective tissue contained pus it ought to be evacuated. Sometimes there were large effusions which did not progress to the formation of pus and it was difficult to say if pus were really present. Many different phases of the disease were to be considered. In certain cases it might be expected that the trouble might subside, while a tubal disease giving rise to attacks of peritonitis, to adhesions, and tending to wear out the patient from the pain, was a condition definitely requiring operation.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held on Feb. 14th, Dr. A. J. Duncan being in the chair.—The Secretary showed, for Mr. D. M. Greig, a Boy after treatment for severe injuries to the right upper extremity. These injuries were a severe compound fracture of the humerus (a considerable part of the bone was denuded of periosteum) and a simple fracture of both bones of the forearm in its upper half. A large part of the humerus necrosed and the sequestrum was removed. The result showed a very useful arm with free movement at the elbow.—Mr. G. Halley read notes of eight cases of Hereditary Ichthyosis of the Palms of the Hands and Soles of the Feet and showed a table drawn up with six other cases affected in five generations, making 14 cases in all. The table, like other tables published of similar cases in four or five generations, showed that both sexes were alike affected and that the affection passed through males and females alike. He was of opinion, from what he knew of this family, that the affection in such cases appeared soon after birth and if looked for at birth would probably be noticed then. All of the patients had good health and were able to earn a livelihood in the mills.—Dr. J. M. H. Macleod read a paper on the Treatment of Skin Disease by the Finsen Light and the X Rays. He considered that in

suitable cases of lupus the treatment by the Finsen lamp was the best. Coarse skins required longer treatment than fine skins and dark complexions required longer treatment than light complexions. Too early exposure after reaction or too long exposure was dangerous. Epithelioma was sometimes set up. Out of 70 cases treated by him 11 were cured apparently and one was made worse. He had found this treatment beneficial in gummata and granulomatous patches occurring in sycosis of the chin. In some forms of lupus erythematosus it was harmful. Comparing the Roentgen rays with the Finsen rays he said that the Roentgen rays were more powerful, more difficult to regulate, and had a totally different action; they also had a wider field of action and therefore protective coverings beyond the field required were a necessity. Dermatitis following exposure to x rays had been succeeded by epithelioma. Treatment by x rays required careful watching. It was an excellent adjunct to treatment by Finsen rays but not equivalent. It was useful in some cases of ringworm of the scalp and favus but not in hypertrichosis. Its chief value was in rodent ulcer and in superficial epitheliomata.—Professor D. MacEwan, Dr. R. Sinclair, Mr. Halley, and Professor J. A. C. Kynoch took part in the discussion.

THERAPEUTICAL SOCIETY.—A meeting of this society was held on Feb. 17th, Mr. W. Parson, Master of the Apothecaries' Company, being in the chair.—The Secretary read a brief sketch of the formation of the society, which was started in July last. The Apothecaries' Company agreed to give the use of its rooms free of charge. Rules were drawn up and officers and council were chosen. 107 Fellows joined the society.—Dr. R. Hutchison read a paper on the Use of Acid Sodium Phosphate in Alkalinity of the Urine. The alkalinity of the urine was estimated either by precipitating alkaline phosphate by barium chloride and then estimating the acid phosphates by adding uranic nitrate solution or by adding phenalphthalein and titrating with a standard solution of alkali. He found that mineral acids, even in large doses, had very little effect in rendering the urine acid, nor did organic acids have more than a slight effect, but the acid sodium phosphate had a marked influence on the reaction. It had been tried with very satisfactory results in cases of cystitis and it was found particularly useful after operations on the bladder to keep the urine acid. The dose was from 30 to 60 grains every three hours, but it was best given by dissolving two drachms in a pint of water and allowing the patient to drink it from time to time. If diarrhœa was produced the drug should be stopped for a short time.—Dr. James Burnet read a paper on Ichthyol in the Treatment of Pulmonary Disease. He said that ichthyol was a definite chemical compound and formed a thick liquid substance of dark-brown colour with characteristic taste and odour. It contained from 15 to 16 per cent. of sulphur. At present it was much used as an external medicament but its internal use had been much neglected in this country. It was certainly of great service in cases of pulmonary disease when administered in suitable cases. It arrested the disease but did not eradicate it. Good results were also obtained in cases of bronchiectasis. The mode of administration was by means of capsules, the dose varying from eight to 20 grains four times a day. In pulmonary tuberculosis it was to be preferred to creasote and its preparations, for ichthyol never caused any gastric derangement, whereas creasote often did. To be of any service ichthyol must be used for a long period.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held in Birmingham on Feb. 4th, Dr. H. W. Langley Browne, the President, being in the chair.—Mr. W. Edward Bennett showed a specimen of Perforated Typhoid Ulcer which had been operated upon by him. The patient, a married woman, 23 years of age, was admitted into the workhouse infirmary on August 12th, 1902, being then in the second week of the disease, which presented the usual symptoms. She progressed favourably until Sept. 8th, when a relapse occurred, the symptoms indicating perforation. On the 10th, some 14 hours after perforation was supposed to have occurred, the abdomen was opened and a perforation of about the size of a small pea and situated about four inches from the ileo-cæcal valve was found and stitched up. The patient progressed very favourably until the fifth day after the operation, when a severe hæmorrhage from the bowel resulted in her death. At the necropsy two other large ulcers were found in the ileum below the seat of perforation, one of which had apparently eroded a large vessel in its immediate neighbourhood. There was no peritonitis.—Mr. Bennett also showed a specimen of Gastric Ulcer taken from a female, aged 18 years, who had suffered from anæmia and symptoms of gastric ulcer, dating back for 12 weeks. Symptoms of perforation showed themselves suddenly on the morning of Jan. 4th, 1903, and on opening her abdomen 16 hours afterwards Mr. Bennett found gastric contents in the peritoneal cavity and a slit-like perforation at the pyloric end of the stomach just below the junction of the gastro-hepatic omentum and the lesser curvature of the organ. The perforation was stitched up and an opening was made above the pubes. The abdomen was irrigated and a tube was left in the pouch of Douglas. The patient died at 8 A.M. on the 5th. At the necropsy a large ulcer was found on the posterior wall and lesser curvature of the stomach, the perforation having occurred at its upper and anterior margin. There was general peritonitis.—Dr. C. A. Leedham-Green showed a patient from whom he had removed the Gasserian Ganglion by a modification of Krause's method.—Mr. J. Jameson Evans read a paper on the Occurrence of Neuro-retinitis in Anæmia.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Feb. 25th, Dr. J. H. Stowers, the President, being in the chair.—Dr. T. D. Savill showed a case of (?) Tinea Imbricata with a microscopical section of the affected skin. Dr. Savill and Mr. A. Shillitoe exhibited photographs of typical cases of the disease.—Dr. P. S. Abraham showed (1) a case presenting a Vesiculo-varioliform Eruption with tendency to leave punctate scars (the disease was of 12 years' duration and was contracted in South Africa); (2) a case of Ichthyosis in a baby; (3) a case of Lupus Erythematosus; and (4) a case of Tinea of the Scalp in an elderly woman (some hairs from this case were placed under the microscope).—Dr. E. G. Graham Little showed (1) a case of (?) Pemphigus Foliaceus; (2) a Perforating Ulcer of the Foot in a man who showed no signs of Locomotor Ataxia; (3) a case of Urticaria Papulosa presenting a nearly universal eruption of flat shining papules of 14 days' duration (lichen planus infantum); and (4) a man suffering from Seborrhœa, with Alopecia of the Scalp and a Ringed Eruption on the Limbs.—Mr. Shillitoe showed: 1. A case diagnosed as Tertiary Roseola. The man contracted syphilis six years previously and was fully treated for the same. In September, 1902, he developed small sores on the penis, which had constantly recurred since and were still present in the form of herpetic blisters and small round abrasions. The roseola appeared in November. (It was considered by some members that this was a case of re-infection). 2. A case presenting Syphilomata of the Tongue and Lip. 3. A case of Recent Syphilis in which the eruption on the neck tended to form very distinct hollow squares.—Dr. A. Eddowes showed a case of "Vest Rash" and a section of a Sebaceous Cyst taken from the patient.

EDINBURGH ROYAL MEDICAL SOCIETY.—A meeting of this society was held on Feb. 27th, Dr W. H. Prentice being in the chair.—Dr. A. H. Firth read notes on a case of Ophthalmoplegia. The patient was a woman, 34 years of age, and the condition was brought on by a severe chill. On the right side there were ptosis, complete immobility of the eyeball, and loss of pupil reaction to light and accommodation. Under iodide of potassium and counter-irritation the symptoms improved.—Dr. W. B. Drummond gave a lantern demonstration on several surgical affections of children. He showed skiagrams of tuberculous and syphilitic diseases of bones, osteomyelitis, fractures and dislocations, and congenital dislocation of the hip.—Dr. S. A. K. Wilson read a dissertation on Pigmentation.

ROYAL DEVON AND EXETER HOSPITAL.—The annual meeting of the subscribers to this institution was held on Feb. 26th, under the presidency of the Bishop of Marlborough. The medical report stated that during 1902 the in-patients numbered 1349 as compared with 1258 in 1901 and that 5214 out-patients were treated against 5103 in the previous year. The financial statement showed that the income amounted to £7141 and the expenditure to £9616. To make good the deficit the committee had been obliged to withdraw some invested funds. The Bishop of Marlborough was re-elected president.

Reviews and Notices of Books.

International Clinics. Vol. II. Twelfth Series. Edited by HENRY W. CATTELL, A.M., M.D. London: J. B. Lippincott Co. 1902. Pp. 295. Price 10*s.* 6*d.*

THIS volume of International Clinics, which is the second of the twelfth series, contains a number of papers of very unequal merit. Although nominally international the character of this particular volume is clearly transatlantic and, although comparisons are not always the best means of description, it may perhaps be permitted us to contrast this hospitable receptacle for literary productions with the somewhat similar and decidedly superior publications of our own Sydenham Society. Among the contributions which deserve special mention must be included that of Dr. R. Romme (Paris) which supplies a full account of Gersuwy's method of prothesis by subcutaneous injection of vaseline. The reported successes of this new development of plastic surgery were at first regarded as the vain boastings of megalomania. At the present time, however, as may be gathered from the perusal of Dr. Romme's paper and from recent cases published in THE LANCET, the record of experimental and clinical work clearly demonstrates that the method deserves a place amongst the most useful innovations in surgery. Dr. Romme's paper, though containing much useful and practical information, is of the nature of special pleading rather than of a critical review. Another article which will be read with interest is from the pen of Professor Thomas Jonnesco (Bucharest). This paper describes the successful treatment of exophthalmic goitre by the heroic method of resection of the cervical sympathetic; his heroism has in a certain number of instances gone the length of complete extirpation of the entire cervical sympathetic chain on both sides of the neck, and judging from photographic illustrations before and after the operation this line of treatment must be admitted to have supplied most favourable results in Professor Jonnesco's hands. In view of the result of the surgical removal of this portion of the peripheral nervous system our conception of its physiological functions evidently demands reconsideration, for as the result of the operation Professor Jonnesco assures us that none of the sequelæ which physiologists have led us to suppose would be the inevitable result of extirpation have followed. Indeed, no dystrophic results were noticed in the vital organs, such as the lungs or the heart, or in the less important tissues such as the skin. The third paper to which we would draw attention has been prepared at the request of Professor Pavloff of the Imperial Institute of St. Petersburg by Dr. Bodissof. In this paper are described in length and detail the results of experiments on the glands of the stomach and buccal cavity by means of a special method of research. With regard to the gastric secretion, to examine its mode of production and its action Professor Pavloff has modified the method employed by Heidenheim and has secured for direct observation a form of accessory stomach shut off from the main cavity by means of a septum of invaginated mucous membrane. By this method of procedure the continuity of the filaments of the pneumogastric nerve has not been interfered with and hence the nervous mechanism of the accessory stomach can act in unison with that of the main viscus. The results obtained by this method have very important bearings on the therapeutic management of the processes of digestion, for it has been shown that the stomach is capable of secreting a gastric juice by the direct stimulation of its mucous membrane by chemical irritants and by certain extractive matter and also by psychical impressions reaching it from the central nervous system by way of the pneumogastric nerve. It has further been shown by the same method of research that certain substances which were generally supposed to excite the secretion of the gastric juice have apart from psychical impressions a negative influence on the activity of the glands of the stomach. For instance, pure albumin introduced into the stomach apart from psychical influences has no stimulating effect on the secretion; indeed, it remains as an inert substance in the stomach at the mercy of putrefactive processes. It has been shown, then, that psychical influences reaching the stomach by way of the pneumogastric nerve have an even greater bearing on the processes of digestion than has heretofore been believed and failure to keep animals alive after resection of both pneumogastric nerves has been proved by Professor Pavloff to be due to the cutting off of the psychical impressions. By the appreciation of this fact and by the substitution of suitable direct stimuli of the mucous membrane he has been enabled to keep animals so operated upon alive for considerable periods of time. This paper is to be continued in a future number of this series and will deal with the interesting and important relationship between pancreatic and intestinal secretion in association with gastric activity. Apart from the three papers referred to the contributions to this volume are of little importance and some of them are extremely dull and uninteresting.

Practical Dietetics. With Special Reference to Diet in Disease. By W. GILMAN THOMPSON, M.D., Professor of Medicine in the Cornell University Medical College, New York. Second edition, enlarged and thoroughly revised. London: Henry Kimpton. 1902. Pp. 828. Price 21*s.*

THIS is a very substantial volume devoted to the practical application of dietetic principles in health and disease. At the outset the author is disposed to complain that the dietetic treatment of disease has not received that attention in medical literature which it deserves and he expresses regret that in the curriculum of medical colleges the subject is usually either omitted or is disposed of in one or two brief lectures at the end of a course in general therapeutics. To what extent these remarks apply in the United States we are not aware, but certainly in this country the subject of diet takes no subordinate position in the medical curriculum. Indeed, the subject of special dietetics has received perhaps more attention in this country than elsewhere during the last ten years or so and at the present time we have a number of active workers in this field amongst us. The part that English investigators have taken is evident from the number of references that invariably occur in standard works published in other countries and the work before us is no exception, for we find ample references to the researches of Dr. I. Burney Yeo, Dr. F. W. Pavy, Dr. Roberts, Sir Dyce Duckworth, Sir Henry Thompson, Dr. A. E. Garrod, Dr. A. P. Luff, Dr. Bence Jones, Sir Andrew Clark, and many others.

The work is divided into nine parts, of which the first is the most voluminous, consisting of over 200 pages. It deals with foods and food preparations, special attention being given to those points regarding the nature and composition of food which render it either available or not available for a special purpose. There is a very interesting chapter on milk and its adulteration and impurities. There is no doubt that the United States are ahead of this country in regard to taking steps for the prevention of the adulteration and contamination of milk and for the maintenance of a high degree of purity. The minimum limit for fat, for instance, in the United States is 3·5 per cent., whereas in this country it is 3 per cent. The question of preservatives in milk does not, however, seem to have reached a final decision, for only some weeks ago we were told that it was proposed to carry out a very practical experiment upon the subject by submitting to one set of individuals food preserved with certain

antiseptics and to another set of individuals the same food not so preserved. The result of this experiment will be watched with great interest. In regard to the preservation of eggs the author states that "eggs decompose from the admission of germs through their porous shells" and suggests that for preserving purposes they should be coated with varnish, paraffin, butter, vaseline, or glycerine. He also mentions the use of a 10 per cent. solution of water-glass, in which eggs will keep fresh, he states, for three and a half months. Nothing, however, seems so simple and effectual as the expedient described in our columns about a year ago by Sir William Gairdner which consisted in greasing the egg as soon as possible after it has been laid and while warm. By this method it is said that the egg is scarcely distinguishable even after months' keeping from a newly-laid egg. Dr. Thompson is inclined to discount the value attributed to the so-called active principles of cod-liver oil. Part 2 is an interesting disquisition on stimulants, beverages, and condiments. It is stated that in localities where the consumption of ardent spirits has been brought into competition with, or has been superseded by beer, drunkenness has often diminished. The author regards the most hurtful ingredient of new and raw liquors as fusel oil which is reduced by age. According to our experience the higher alcohols in potable spirits increase on keeping and the bad physiological action of raw spirit is attributable to aldehydes of which furfural is an example rather than to higher homologues of ethyl-alcohol. Unfortunately in America, as also to some extent in this country, the term "brandy" is not applied as being distinctive of grape spirit and "cognac" is wrongly used as if it were a generic term. In Part 4 the foods required for special conditions are considered, while in Part 5 the nature of the processes of digestion is discussed. The rest of the sections deal with diseases due to dietetic errors and to the suitability of certain dietaries in various pathological conditions. The book is full of useful chapters and should be of peculiar service to the practitioner who devotes special attention to the question of diet under varying conditions of health. In spite of the excellent work that has been done in this country on the subject of dietetics it is to be regretted that the precepts invariably laid down have not received that attention which rational treatment demands. Dr. Thompson's work supplies just that material which is calculated to guide the practitioner on these important points.

A Text-book of the Science and Art of Obstetrics. By HENRY J. GARRIGUES, A.M., M.D. With 504 Illustrations. London and Philadelphia: J. B. Lippincott and Co. 1902. Pp. 844. Price 25*s.* net.

THE aim of the author has been to write a text-book and not a book of reference abounding in details which cannot but prove embarrassing to the student. We do not think that he has succeeded. The present volume of 844 pages contains an amount of detail upon many relatively unimportant subjects which seems to us to be excessive. As an example of this we may instance the fact that nearly a page and a half, or 60 lines, are devoted to a consideration of injury to epithelial pearls in the mouths of newly-born children, while the operation of cephalotripsy is described in 20 lines. The book may be regarded as written from the point of view of the obstetric physician rather than from that of the obstetric surgeon, and while a number of cut-and-dried prescriptions are given for use in the treatment of different medical conditions the descriptions of many of the obstetric operations are very imperfect and, indeed, are misleading from their vagueness. If we read the description of perforation of the child's skull we are told that the spear- or lance-ended perforator, of which Naegele's is taken as a type, "can on the head be used for perforation only at a fontanelle or suture," precisely the way in which students are taught, in this country at any rate, where this pattern is almost universally employed, that it should not be used. In the description of the application of the cephalotribe no mention is made of the part of the child's skull which should, if possible, be seized, the reader is not told how to prevent slipping of the instrument, and nothing is said of the rotation of the child's head through a quarter of a circle after it has been crushed, which is necessary if the instrument is to be safely used in a markedly flattened pelvis.

The book is divided into two main parts: a Normal and an Abnormal division. The first contains chapters upon Foundations, Normal Pregnancy, Normal Labour, and Normal Puerpery, while in the second part chapters are devoted to Abnormal Pregnancy, Abnormal Labour, Obstetric Operations, Abnormal Puerpery, and Notes upon Diseases of the New-born Child. The author is very fond of using archaic and unusual terms and spelling; thus we find "felon" for whitlow, "analogen" for analogy, and "lipothymia" for fainting; while the new term "ædœitis" is suggested in place of vulvitis. The use, too, of such expressions and sentences as "tympania uteri," "there is no longer any doubt that staphylococci and streptococci ..... may derive from the patient herself" and "the pubes are shaved off or at least cut short," is hardly to be commended. It is true the author might plead that the word "derive" is used in this sense both by his compatriot William Dean Howells and by the late Lord Tennyson; while the original meaning of the term "pubes" was the hairy covering and not the place upon which the hair grew. In spite of this we think that in a text book for students the language cannot be too simple and straightforward and the use of obsolete words and ambiguous terms is best avoided.

A book of this size cannot fail to contain a large amount of information and it is of interest in that it presents in a single volume a summary of the numerous writings of Dr. Garrigues upon obstetric medicine. We do not anticipate, however, that it will appeal as a text-book to the English student, although its perusal may prove of value to the practitioner who is in a position to make allowances for its defects.

LIBRARY TABLE.

Report on the Yellow Fever Expedition to Para of the Liverpool School of Tropical Medicine. By H. E. DURHAM. London: Longmans, Green, and Co. (for the University Press of Liverpool). 1902. Pp. 79. Price 7*s.* 6*d.* net.—This report of the yellow fever expedition to Para derives an additional if somewhat pathetic interest in that both observers whose work is recorded in the report were attacked by the fever in question and one of them—Dr. Walter Myers—died therefrom. The report deserves close study as a contribution to the knowledge of a disease which is even now by no means thoroughly understood. Shortly, we may say that Dr. Durham and Dr. Myers were able to confirm Sternberg's observations of a very slender bacillus existing in the tissues of those dead from yellow fever. They also found "a small bacillus similar to that in the yellow fever cases" in the centrifugalised blood from a seaman suffering from malaria who had had yellow fever some years previously but who had recently been exposed to the infection of yellow fever. A similar bacillus was found in certain mosquitoes, the mosquito having been suggested as the means of transference of yellow fever so long ago as 1881 by Dr. Charles Finlay of Havana. The theory of Dr. Durham and of Dr. Myers as to the pathology of yellow fever is as follows. It must be supposed that the bacilli found in yellow fever patients and in certain mosquitoes are of the same nature. Then it may follow that the mosquitoes introduce the bacilli which thereupon are generalised in the body, giving rise to the influenza-like first period of the fever;

that the bacilli are then localised in and about the intestinal area, giving rise to toxic products which by their absorption cause the second stage of the fever. It would appear that a patient already infected may receive further infection by being bitten again. The reporters consider that the most likely method of prophylaxis lies in the injection of some serum of an immune animal, together with a dose of infective material—i.e., the serum of a convalescent patient mixed with the "blood of an early yellow fever patient." In addition patients and others should be protected from mosquitoes. Besides the yellow fever report the volume contains notes on ague at Para, notes on general health at Para, and some "odd notes" on prickly heat and on various forms of parasites.

Constipation. By G. SHERMAN BIGG, F.R.C.S. Edin. London: Baillière, Tindall, and Cox. 1902. Pp. 67. Price 2*s.* 6*d.*—Mr. Bigg is doubtless right in laying stress upon the fact that constipation predisposes the individual to disease by weakening the normal defences of the body. The book we take it is addressed mainly to the public, for it contains nothing that the average practitioner does not know with the exception of one thing. On p. 36 we find the following sentence: "The appendix is a small blind tube which secretes an oil for the lubrication of the bowel." We certainly cannot prove that the appendix does not secrete an oil but we should like to know Mr. Bigg's authority for the statement.

1. *A Clinical Lecture on Fractures in the Neighbourhood of Joints and on Sprains and Dislocations.* London: Smith, Elder, and Co. 1902. Price 1*s.* 2. *Coccygodynia.* Both by NOBLE SMITH, F.R.C.S. Edin. 1902.—The Clinical Lecture was delivered at the City Orthopædic Hospital on June 11th, 1902. It deals with the method of passive movements after dislocations and of massage of fractures. With regard to sprains Mr. Noble Smith does not approve of bandages but prefers strapping lightly applied. Neither does he approve of the use of hot fomentations directly that a sprain has occurred. He certainly gets admirable results by his method, but we think that in a quite recent sprain the use of water as hot as it can be borne is most comforting and this procedure, if followed by bandaging over a large thick layer of cotton wool, together with passive movements at an early date, also gives good results. The little pamphlet on Coccygodynia commences by referring to rudimentary tails in human being—tails, that is to say, of a more obvious nature than the normal coccyx. A selection of cases of coccygodynia under the care of other observers is then given and Mr. Noble Smith concludes by relating cases which have come under his own notice. Some of the cases were relieved by simple reposition of the coccyx, but in others the bone had to be removed. The removal in no way affected the functions of the rectum or anus.

The Manufacture of Chocolate and other Cacao Preparations. By Dr. PAUL ZIPPERER. Second edition. Berlin, W.; Verlag von M. Krayn. London: E. and F. N. Spon, Limited. 1902 Pp. 277. Price 16*s.*—Cocoa and its preparations have taken such a large share in the modern dietary that ample room has been made for literature with regard to its manufacture and its cultivation. The present work is evidently written by an expert upon the manufacturing side, for most of the pages are devoted to a somewhat detailed account of the machinery involved. We have been interested in the account given of the ingredients used in the manufacture of cocoa powder and soluble cocoa and the use of alkalies. According to the author, it would appear that potash is the favourite form of fixed alkali used, while the volatile alkali employed is, of course, ammonia. The object of using alkali apparently is to render the cocoa more soluble, which in reality is not what is effected. Alkali plays the part, so to speak, of a mucilage and keeps the cocoa powder in a state of suspension when prepared in the cup. Without alkaline treatment a sediment is quickly formed, whereas with alkaline treatment the sediment forms slowly. We cannot see, therefore, that this so-called solubility is a gain unless the fact that the cocoa powder is suspended in the beverage may be counted as such. It is stated that all kinds of Dutch cocoa are distinguished by the large amounts of ash and potash. We are under the impression, however, that certainly one Dutch cocoa is manufactured without the addition of free alkali, although it certainly contains an excess of ash. Such cocoa gives a characterless reaction with litmus paper. Carbonate of potash, however, will be found in the ash, but the cocoa itself gives no alkaline reaction. The author maintains that the treatment of powdered cocoa with volatile alkali is decidedly the best method of rendering cocoa "soluble." There are interesting chapters on the ingredients used in the manufacture of cocoa and on the chemical and microscopical examination of cocoa preparations. Finally, a section on what might be called chocolate compounds, such as malt cocoa and plasmon cocoa, is added; in fact, the author has spared no pains to tell the whole story.

A First Course of Chemistry. By J. H. LEONARD. London: John Murray. 1902. Pp. 134. Price 1*s.* 6*d.*—It is refreshing to find a first course of chemistry based on the heuristic method—that is, on a method which is not devoted to cramming the beginner with a number of facts but which is calculated to lead him to develop his powers of observation by placing familiar objects in front of him and by asking him to describe something about them. Thus the author starts, "Suppose I showed you a piece of some substance which you had never seen before. You would at once want to know something about it and probably the first question you would ask would be, 'What is it?' Take a lump of chalk, for example; is it a solid, liquid, or gas? What is its colour? Is it heavy or light? Does it crush easily? Is it rough? Does it dissolve in water? Have you seen any occurring in nature? and so on. Let us try to learn from experiments some facts in answer to these questions." The facts are thus quickly learnt and as a rule are never forgotten. A sound conception of the natural laws which underlie the whole fabric of chemical science is gained. We should like to see this method universally adopted, since it gives a healthy stimulus to the powers of observation and develops the reasoning faculty.

Manual of Alcoholic Fermentation and the Allied Industries. By CHARLES G. G. MATTHEWS, F.I.C., F.C.S. London: Edward Arnold. 1902. Pp. 295. Price 7*s.* 6*d.*—This book contains twelve interesting chapters dealing with alcoholic fermentations in the light of modern science and theory. The author shows the influence that modern scientific discovery has brought to bear upon the alcoholic fermentation industries. In this category he excludes the production of alcohol from miscellaneous sources, such as rum from molasses, &c., brandy from cider, spirit from fermented fruits, such as cherries, and crude alcoholic drinks, such as arrack and vodki, from roughly fermented cereals, adding that there is nothing in the manufacture of any of these worthy of the name of a scientific industry. He regards, however, the manufacture of fine brandy or cognac from wine as requiring some care and skill "and the product is chemically interesting on account of the variety of higher alcohols, ethers, &c." His definition of silent spirit or patent still spirit that it differs in one marked essential from brandy, rum, whisky, &c., in that its flavour is wholly and solely that of ethylic alcohol, is perhaps unintentionally cynical, and Mr. A. H. Allen, who is quoted on the subject, gives point to the definition by saying that the producer of silent spirit labours to obtain that which does not betray its origin by any characteristic smell or flavour.

This is true, but what would its application be if it were not worked up into a spirit called whisky? The time has come, we hold, when some control should be exercised over the blending of spirits and over the labeling of the bottles containing them. The original word "whisky" had no reference at all to silent spirit but to spirit made from barley malt and why should it be different now? Speaking of whisky generally, the author states that whatever may be the cause of certain physiological effects resulting from the consumption of new or unmatured spirit it is a matter of ordinary experience that proper maturing does away with them and there can be no question that this is due either to change of objectionable substances into non-objectionable or to their removal by absorption into the wood of the cask. We have given some attention to this subject and we are not able to affirm that any artificial maturing process can claim to do what time does. The author's remarks on the differences between the keeping powers of English brewed beer and lager beer are of interest. Lager beer, he states, is more prone to adverse changes from bacteria and "wild" yeast than is English beer under similar conditions of storage. By the pasteurising process, however, we have known lager beer to keep in excellent condition for years. The author writes from Burton-on-Trent, so that it may be safely assumed that he has practical acquaintance with the great brewing processes. In the work before us he has written a very instructive account of the alcoholic industrial processes, which is all the more valuable because it is presented in the light of modern knowledge.

The Testing of Chemical Reagents for Purity. By Dr. C. KRAUCH. Authorised translation of the third edition. By J. A. WILLIAMSON, F.C.S., and L. W. DUPRÉ. London: Maclaren and Son. 1902. Pp. 350. Price 12*s.* 6*d.*—A schedule of the common impurities of those reagents which are used in analyses and research is of the utmost value. Frequently in the work of chemical investigation puzzling results are obtained which are ultimately explained by the presence of impurities in the reagents used. The information as to the kind of impurity to which a certain chemical reagent is liable is not always to be found in ordinary text-books and therefore chemists, analysts, and others will welcome the publication of this book which deals with the impurities commonly found in reagents and with the means of recognising them. Curiously enough the reagent that happened to suggest itself first to our mind was glycerine, especially in regard to the detection in it of arsenic in small amount as an impurity, but by some oversight glycerine is not even mentioned, although we find described many other organic compounds, such as cane sugar, carbolic acid, gallic acid, benzene, picric acid, and acetone. The plan of the work is simple enough, the various reagents and substances being arranged in alphabetical order. We observe that in addition to references being given to original communications in foreign literature mention is also made where possible of the appearance of any abstract of the original in English journals. So far as we have examined the sections the methods of testing described and those laid down for the quantitative estimation of the chemical agent under consideration are satisfactory. As regards sulphuric acid, it is suggested that the Marsh test should be employed for the detection of arsenic. We know no method that is simpler for rapidly differentiating an arsenical acid from a non-arsenical acid than that of adding a few drops of sodium sulphide solution directly to the acid. In the presence of even a small amount of arsenic a yellow curd of arsenious sulphide at once separates which it is impossible to confound with sulphur. The test was suggested by Mr. Vincent Edwards, F.I.C., F.C.S., chemist to the Lawes Chemical Manure Company, and if it had been adopted in the case of the acid which was afterwards proved to contaminate beer with arsenic there would have been no beer-poisoning epidemic. We commend this book because its chapters serve as a warning against certain possible pitfalls in chemical analysis arising from the impurities in the reagents employed.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., with the coöperation of ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. With Lithographic Plates and Engravings on wood. London: J. and A. Churchill. Vol. XVI., Part 4. (New Series, No. 184.) Pp. 274. February, 1903. Price 10*s.*—The articles contained in this part are the following:—1. The Movements and Reactions of Fresh Water Planarians: a Study in Animal Behaviour, by Raymond Pearl, Ph.D., instructor in zoology in the University of Michigan, U.S.A. The author first studied all the normal movements of the ordinary planariæ, especially planaria doroto-cephala and planaria maculata, their food reactions and their reactions to chemicals in general; their electrotaxis, thigmotaxis, and rheotaxis; the righting reaction; the reaction of cut and regenerating pieces and hydrotaxis and the reactions during desiccation, but no work was done on the phototaxis or thermotaxis. He shows that the planariæ are highly sensitive to slight mechanical shocks. They secrete mucus-threads of various form; they have periods of activity and rest; they have a disposition to collect together and to form groups; they are carnivorous. A description is given of the cilia and of the mode in which they effect locomotion; a very full account is also given of the various movements of locomotion and of the movements consequent on the application of feeble and of strong stimuli. The article is a very interesting one. 2. On the Diplochorda, by A. T. Masterman, M.A., D.Sc., lecturer on zoology, School of Medicine, Edinburgh. This constitutes Part 4 of Dr. Masterman's researches on this group of Diplochorda and is devoted to Cephalodiscus dodecalophus. It is illustrated by two plates. 3. On Hypurgon Skeati, a New Genus and Species of Compound Ascidians, by Igerna B. J. Sollas, B.Sc. Lond., Bathurst student of Newnham College, with two plates. 4. The Anatomy of Arenicola Assimilis, Ehlers, and of a New Variety of the Species, with some observations on the post-larval stages, by J. H. Ashworth, D.Sc., lecturer on invertebrate zoology in the University of Edinburgh, with two plates. This number of the Journal contains the index to Vol. XVI.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XXIX., No. I., Feb. 23rd, 1902. London: C. J. Clay and Sons. Pp. 96. Price 6*s.*—The present number of this journal contains the following articles:—1. The Sugars of Muscle, by W. A. Osborne and S. Zobel. Amongst other conclusions at which the authors arrive the more important are that the diastatic action of pancreatic juice and malt diastase at a temperature of 37° C. ends with the formation of maltose, and that the carbohydrates of muscle, exclusive of glycogen, are dextrins, dextrose, and maltose, the latter sugar preponderating. 2. Further Observations of the Sequence of Changes produced in the Urine as a Result of Exercise, by G. C. Garratt. The exercise taken by the author was 45 miles per diem on a cycle with regulated diet at an average speed of 15·5 miles per hour; no rest or refreshment was taken. The urea was found to be very low during the ride but it rose abruptly after, reaching its maximum in eight hours. The increased excretion of nitrogen fell almost entirely on the urea component. The excretion of ammonia was unaltered. The quantities of sulphuric acid and potassium were considerably increased in the urine, the maximum output occurring several hours before that of total nitrogen.

Phosphoric acid was also discharged in larger quantities. 3. Cortex Cerebri and Iris, by N. Mislawski, professor of physiology in the University of Kazan. This observer finds that dilatation of the pupil follows excitation of the cortex cerebri after section of the cervical sympathetic, after extirpation of the superior cervical ganglion, after section of the spinal cord at the first vertebra, and even after section of the medulla oblongata behind the corpora quadrigemina. 4. The Effect of Hæmorrhage upon the Composition of the Normal Blood, compared to its Effect during the Administration of Iron and Arsenic, by E. P. Baumann, M.D. 5. On the Physiological Action of the Kenyak Dart Poison Ipoh and its Active Principle Antiarin, by C. G. Seligman, M.B. Lond., with three figures in the text. Ipoh is obtained from the crude sap of antiaris toxicaria indigenous in the Baram district of Borneo. 6. Observations on Some Spinal Reflexes and the Interconnexion of Spinal Segments, by C. S. Sherrington, F.R.S., and E. E. Laslett, M.D. Vict. The number also contains the proceedings of the Physiological Society on Dec. 13th, 1902, and Jan. 17th, 1903.

New Inventions.

A PORTABLE TABLE ALLOWING OF PATIENTS BEING READILY PLACED IN THE TRENDELENBURG POSITION.

THE portable operating table shown in the accompanying illustration is a modification of that suggested by Mr. Jordan Lloyd. Two legs are added under the head which are united to the upper ends of the ordinary legs by strong hinges and to one another below by a cross piece. These can be fixed at the required angle to the ordinary legs by means of an adjustable support, one on each side. All that is necessary to place a patient in the Trendelenburg position

is—first, to fix the extra legs at the necessary angle; secondly, to slide in the support for the foot flap and to drop it; and thirdly, to tilt the table backwards and place an ordinary wooden chair under the cross piece connecting the legs at its foot.

It will really be found simpler to place a patient in the necessary position with this little table than with many of the operating tables in hospital theatres, and I hope that it will supply a want which I personally have long felt existed.

The table as described above has been strongly and neatly made for me by Messrs. Maw, Son, and Sons of Aldersgate-street, London, E.C.

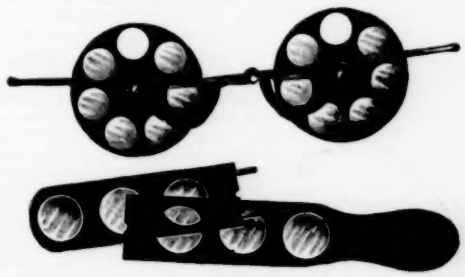
ARTHUR H. BUCK, F.R.C.S. Edin.,
Brighton. Assistant Surgeon, Sussex County Hospital, &c.

A PORTABLE REFRACTOMETER.

FROM a model of a refractometer which I showed recently before the Ophthalmological Society Messrs. S. Maw, Son and Sons, of Aldersgate-street, London, E.C., have made a standard pattern which is figured below.

The instrument was designed to save the time and labour expended in changing the lens during retinoscopy, but it will doubtless prove of value to surgeons in the country and abroad for subjective examinations when the larger test cases may be impracticable, for the whole—face-piece, "rule," and eight complementary lenses and stops—packed in its case measures nine by three and a quarter by one and quarter inches and weighs 11 ounces, a less bulk and weight than the common yellow-backed novel.

The plan of the instrument is simple. To each outer extremity of the face-piece of a skeleton trial-frame is affixed a pivot; upon each pivot there rotates a disc. The discs (three inches in diameter) are perforated by seven holes (three-quarters of an inch in diameter); one is open and six are glazed with lenses from 1 D. to 6 D., the disc of one side with + lenses, the other with − lenses. By rotating the discs the lenses come in succession before the eye-hole, and since the instrument is reversible



either disc may be placed before the eye to be examined. If a higher sphere than 6 D. is desired a 7 D., or, if necessary, 14 D., lens is placed in the "cell" hanging in front of the eye-hole, so that by rotating the disc as before from 1 D. to 20 D. are obtained. For fractions of a dioptre an independent flat rule carrying six lenses + and − 0·25, 0·5, and 0·75, with a space, is provided; this "fraction rule" is held vertically before the eye first at the central space, then raised or lowered as + or − fractions may be desired. The "cells" in front of the discs for the reception of additional lenses are held in such a manner that on reversing the instrument each "cell" automatically retains the pendent position and so is ready to receive the lenses. They bear the usual degree markings. The frame is adjustable for binocular inter-pupillary distance from two and a quarter inches to two and three-quarters inches by a sliding bar bridge and thumb screw; for monocular use from two inches to three inches I.P.D. can be obtained by simply displacing the bar bridge from right to left, or reversely, as needed. The lenses provide all values from 0·25 D. to 20 D., + and − spheres, for monocular purposes; and for binocular vision all values from 0·25 D. to 14 D., both + and − spheres. For the determination of astigmatism by retinoscopy the value of each meridian is determined by its spherical correction. In cases where subjective correction alone is sought, it is best estimated by the use of the stenopœic slit, the method to which Donders in his classical work accords premier position (retinoscopy was then unknown).

I believe that the arrangements of the instrument so far follow natural habit in procuring handiness of those lenses most commonly required under 6 D., that it will be useful to these frequently practising retinoscopy. Its value to surgeons away from their normal base or in the services will, I think, be unquestioned. It is neatly and strongly made, there is nothing likely to get out of order, and its price is low.

N. BISHOP HARMAN, M.A., M.B. Cantab., F.R.C.S. Eng.
Queen Anne-street, W.

A NEW SILVER CATHETER.

HAVING frequently met with difficulty in withdrawing urine from the bladder of patients suffering from retention due to stricture, enlarged prostate, &c., owing to the eyes of the ordinary silver catheters becoming blocked with blood-clot during their passage through the urethra, I have devised a new instrument to cope with this difficulty, whilst at the same time it possesses a great advantage over the ordinary catheter in that the inside of the instrument can be properly cleaned and rendered absolutely aseptic.

The principle of the instrument can be at once seen from the accompanying illustration and, briefly, its construction differs from the ordinary catheter in that the last half-inch of the instrument is continuous with the stilette and not with the catheter itself. By this means it can be moved in or out of position by pulling or pushing the end of the stilette and thus there is no necessity for any opening in the side of the instrument.

To use the catheter the stilette is pulled upon until the distal end is in position and the instrument is then passed into the bladder. By pushing on the end of the stilette the end of the catheter is now displaced and the urine is drawn off; the end of the instrument is then replaced and the catheter is withdrawn.

The advantages claimed for this new instrument over the present type are:—1. The absolute impossibility of the catheter becoming obstructed with blood-clot or other foreign material during its passage into the bladder, for during this manipulation there is no opening whatever in the instrument. 2. The ease with which the flow can be regulated according to the distance the stilette is moved. 3. The rapidity with which the bladder can be emptied owing to the larger opening when the end is thoroughly displaced. (N.B.—In testing this instrument I found that a No. 12 ordinary silver catheter occupied 41 seconds in emptying one pint of water, whilst with this instrument (also a No. 12) it was done in 30 seconds.) 4. Supposing the eyes of the ordinary instrument to become obstructed with blood-clot in the bladder there is no way of removing it excepting by taking out the instrument altogether, whilst if the open end of this instrument becomes so blocked the clot can be broken up by alternately shutting and opening the end by means of the stilette and without taking the catheter out. 5 Its greater adaptability to asepsis, for when the instrument has been used the end is unscrewed and the small button (B) is taken off the stilette. The stilette is then withdrawn by means of the end A and the inside of the catheter is thoroughly washed by a stream of water. The stilette is then replaced and the end C is screwed on. A piece of gauze is afterwards passed through C and the stilette is again withdrawn, carrying the gauze with it which thoroughly dries the inside.

As yet I have only had the opportunity of using the instrument in a small number of cases, but in all of these it has answered admirably and has quite fulfilled all my expectations.

In conclusion I have to say that the drawing has been prepared and the instrument has been made by Messrs. Down Bros., Limited, of St. Thomas's-street, Borough, London, S.E., from whom it can be obtained.

STANLEY RAW,
Senior Resident Medical Officer, Sunderland Infirmary.

A SEPTOTOME FOR USE IN MOURE'S AND OTHER OPERATIONS FOR DEFLECTION OF THE TRIANGULAR CARTILAGE.

THIS instrument is a pair of detachable cutting forceps adapted from existing patterns, but specially devised to amplify the applicability of Moure's valuable operation for the rectification of the various forms of deflection or deviation of the nasal septum. The blades are modified from those of Moure's scissors from which they differ in being narrower and symmetrical; their cutting edges are but slightly divergent above and they are obtuse—somewhat probe-pointed—at the extremity. The consequence is that these blades can enter contracted fossæ and be insinuated to the required depth without endangering the folds of the limen vestibuli or the inferior turbinals, whilst the heels are sufficiently apart to clear the septum mobile. The shanks are much less curved or bowed, and at their junction with the blades there is no bending on the flat; in fact the remainder of the instrument closely follows the straight cutting forceps of Asch, but there is an addition of two powerful springs, and the result

of the combination is a simple and handy septotome which works well in practice. The springs insure the disengagement of the blades after closure upon the septum, an action which greatly facilitates an extension of the primary incision, especially of the maxillary one towards the naso-pharynx, upon which, I think, so much of the success of the operation often depends. Strength is secured by the Asch form of handles, whereas the absence of an angle in the shanks, combined with symmetry in the blades, helps to maintain precision in keeping the line. For better adaptation to different requirements—such as the age of the patient, the fancy of the operator, and other conditions—the septotome can be had in three sizes, varying only in the length of the blades, No. 1 measuring half an inch, No. 2 three-quarters of an inch, and No. 3 seven-eighths of an inch (1·3, 1·8, and 2·3 centimetres respectively). Of these No. 1 has, perhaps, the widest application, but the medium size answers in nearly every case, and the length from pivot to point of blade is the same in all. The septotome was made for me by Messrs. Mayer and Meltzer.

Henrietta-street, W. L. HEMINGTON PEGLER.

Looking Back.

FROM

THE LANCET, *SATURDAY*, MARCH 5, 1825.

REVIEW.[1]

A Treatise on Moxa, as applicable more particularly to Stiff Joints. By JAMES BOYLE, Esq., Surgeon of the Middlesex Infirmary, &c. 8vo. pp. 168. London, 1825. Callow and Wilson.

THE use of this species of cautery appears to have originated with the Japanese, by whom, and other Oriental nations, it has been much employed. The origin of the term *Moxa* has been a frequent subject of dispute among etymologists; but if it be not immediately derived from a word in the Japanese, nothing more than ingenious conjecture can establish its origin from other tongues. In France, the publication of Baron Larry's work on the subject procured it the sanction of many members of the profession; but, in England, little

[1] A portion only has been transcribed.

encouragement has yet been given to a practice which, to say the least of it, is decidedly unpopular, and opposed to the feelings and opinions of our countrymen.

We shall now extract from the author's book a part of the History of Moxa, which will show well enough the progress it has made and the class of practitioners by whom it has been most employed.

"The word moxa, according to the inhabitants of China and Japan, designates a cylinder formed of a cottonous species of mugwort (*Artemisia Chinensis*). The date of its first introduction into notice, as a therapeutical agent, is not to be found amongst the records of its history; but at the earliest period to which it can be traced, it was considered an infallible remedy in the cure of many diseases, particularly gout, chronic rheumatism, and nervous disorders.

From China and Japan moxa was introduced into the western part of the continent of Asia; thence, amongst the Chaldeans and Egyptians, by whom, in progress of time, its use was in some degree modified. From these ancient nations this heroic remedy was conveyed into Europe, where, occasionally, or rather in proportion to the success of the practitioner who employed it, its virtues have been recognised or discredited. Its efficacy, however, has been acknowledged by almost every nation; yet the mode of preparing it for use, as well as the manner of applying it, have much varied.

The Chinese formed a small pyramid, by rubbing the dried leaves of the mugwort between the hands, for the purpose of obtaining the cotton from the fibrous part; a little very fine tow being made to project from its summit, which latter being lighted, the material was allowed to burn down gently. The Indians were accustomed to form theirs of a species of rush, which was permitted to burn down in the same manner. The Persians employed goat's dung, dried and rolled into cylinders. The Armenians, the agaric of the oak. The Thessalonians made use of a particular moss. The Laplanders employed birch wood, in a rotten and phosphorescent state. The Egyptians, we have reason to believe, were the first who had recourse to cotton, and the civilised nations of Europe have successively adopted this material, with some modifications."

"Thevenot and Belloni inform us, that the Turks and Armenians attach the greatest importance to moxa: and the first historians, upon describing America, after the discovery of the New World by Christopher Columbus, attest that the employment of fire was not less known to the inhabitants of that vast continent than to those of the old world."

"In the year 1755, the Academy of Surgeons in France, with a view of ascertaining the real advantages of fire in the healing art; the cases in which it was most likely to be successful; and the most efficient mode of applying it, instituted certain inquiries for the purpose. Professor Percy was elected to report from experiment and practice. Various modes of applying heat, from the concentrated rays of the sun to the actual cautery, were put into requisition; but as a full detail of the measures adopted would be rather tedious than useful, it may suffice to state here, that the investigation was favourable to the reputation and revival of this ancient remedy. Thus was again brought forward the most powerful and successful agent which we possess in the treatment of chronic disease."

To those persons who may wish to make trial of the moxa, and to whom the work of BARON LARRY is inaccessible, Mr. BOYLE'S book may be of service. We think, however, that the whole might have been embodied in a communication or two to any respectable journal. It is obvious enough that the remedy is of too painful a nature to be much employed in private practice, and the trials which have been made of it in our public hospitals have not demonstrated its superiority to many other modes of procedure.

CRIMINAL STATISTICS.

THE first part of the "Criminal Statistics of England and Wales in 1901" has been issued, prefaced with an introduction by Mr. H. B. Simpson, one of the chief clerks of the Home Office. This gentleman observes that the figures for 1901, as compared with those for 1900, point to an increase of crime which is unmistakeable but not of serious magnitude, and, further, that this has taken place both in the case of indictable offences, which have of late years shown a marked tendency to diminish, and also in the case of non-indictable offences—that is to say, those dealt with at police-courts, which since 1886 have more or less steadily increased. In one class of offence this increase is attributed in part to the creation of the new charge of habitual drunkenness and also to the steady growth in the number of attempted suicides which are brought to the cognisance of the courts. Charges of habitual drunkenness were made in 176 cases, against 36 males and 140 females. Of these, one was withdrawn, 156 resulted in summary conviction, and 19 of the persons accused were committed for trial and convicted. Turning to the tables which deal with coroners' inquests we find that the total number of inquests in 1901 was 37,184, held upon the bodies of 24,072 males and 13,112 females. This appears to be a pretty constant figure, for comparison with the corresponding tables for 1900 and 1899 shows that the totals in those years were 37,076 and 37,026 respectively, while the males and females were divided in practically corresponding proportions. The slight increase observable in 1901 is more than accounted for by an appreciably larger number of murders and suicides. In that year coroners' juries returned verdicts of murder in 208 cases, as against 145 in 1900 and 142 in 1899, and of suicide (omitting cases of *felo-de-se*) in 3057 cases, as against 2806 in 1900 and 2780 in 1899. In 37 of the cases of murder the person whom the coroner's jury found guilty of the crime had taken his own life at the time of the murder. It would be interesting to know, if the information were obtainable, in how many of these cases of murder and suicide committed simultaneously the cheap revolver was responsible for the double tragedy and also the part which it played in the suicides unaccompanied by murder and in the accidental deaths. A table which gives the number of inquests upon the bodies of children suffocated whilst in bed with their parents or others informs us that 1538 of these inquiries were held in 1901, a smaller number than in either of the two preceding years, and that in 1434 instances the verdict was "accidental death." A verdict of murder was, however, found in one instance, a verdict of manslaughter in four, and an open verdict in 99. The increasing accommodation provided for habitual inebriates and the increasing extent to which advantage is taken of the law with regard to them are shown by the figures relating to their reception in inebriate reformatories. In 1899, the first year of these institutions, only 88 persons were received into them; in 1900, 144; and in 1901, 204. A small increase is observable in the number of criminal lunatics in detention. At the end of 1901 there were 791 of these; at the end of 1900, 770; and at the end of 1899, 766. Most of these are persons ordered by the court trying them to be detained during His Majesty's pleasure. In 88 cases, however, out of the total of 791, the prisoner was certified insane before trial and in 73 after trial, so that it will be seen that the interest of the State in the criminal's mental condition is not limited to the inquiry held or omitted to be held when he is charged with an offence. The total given, it will be observed, includes those previously confined at Broadmoor and elsewhere, as well as those committed to asylums in the year under discussion. The number of those confined as of unsound mind on the last day of 1901, who had been so confined for one year or less, was 109; on the corresponding day of 1900 it was 89; and on that of 1899 it was 77. With regard, however, to the apparent increase in the number of criminal lunatics as shown by such returns as those before us, Mr. John Macdonell, C.B., LL.D., who wrote the introduction to the Criminal Statistics of 1899, thus recorded his opinion: "It is often alleged that insanity is increasing, that juries are more and more disposed, at all events in the case of grave crimes, to find the accused insane and that consequently an increased proportion of insanity among criminals is to be expected. These statements are not borne out by the available statistics on the subject. No doubt there are several reasons why they should be read with caution, one being the fact that there is no record of persons who are tried summarily and found insane—that is to say, no information as to nine-tenths of the persons convicted. But so far as the available figures go they show no increase of insanity in the criminal classes, or, to be more accurate, in the disposition to find insanity as a concomitant of crime."

Royal Medical Benevolent College

Patron—HIS MOST GRACIOUS MAJESTY THE KING
President—THE RIGHT HON. THE EARL OF ROSEBERY, K.G.
Treasurer—CONSTANTINE HOLMAN, M.D.

JUBILEE SPECIAL APPEAL

The Council has the pleasure to announce that HIS ROYAL HIGHNESS THE PRINCE OF WALES has graciously consented to take the Chair at a FESTIVAL DINNER on the 10th June, in aid of the funds of the Charity, and it is the earnest wish of His Royal Highness and of the Council that a sum of £10,000 should be collected on that occasion, which amount would relieve the Institution of its financial embarrassment.

From time to time the Council has been compelled to make special appeals for Funds, and in spite of the assistance derived from one issued late last year, a sum of £2,900 was owing to the Bankers at the end of 1902. Since then the Council has had to remedy defective structures at Epsom College, which will cost a considerable sum of money, and they feel that a serious effort ought to be made to put the finances of the Institution on a sound basis.

The 6th of July will be the 50th Anniversary of the laying of the foundation stone of the College, and the present appears to be a fitting occasion to raise a fund to enable the Council to repay money due to the Bankers, to pay all current liabilities, which are very heavy, to repurchase stock which was recently sold, and to leave a balance in hand for contingencies.

The Royal Medical Benevolent College provides pensions for Aged Medical Men, and the Widows of Medical Men, in reduced circumstances; and a School, open to all classes, but offering special advantages to the Sons of Medical Men, fifty of whom are Foundation Scholars.

There are Fifty Pensioners who receive £30 a year each. They must be legally qualified Medical Men, who have been registered Medical Practitioners for five years, or the Widows of such.

Fifty Foundation Scholars receive an education of the highest class, and are boarded, clothed, and maintained at the expense of the College. They must be elected, after approval by the Council, from among the necessitous Sons of such Medical Men as would be professionally qualified for Pensionerships.

A sum of over £6,000 is required annually for the benevolent side of the Institution, and the greater part of this amount is derived from voluntary contributions. In recent years considerable sums of money have been spent in remedying structural and sanitary defects at the College, the buildings being close upon 50 years old.

The Council has sought for many years to keep the numbers of both Pensioners and Foundation Scholars at 50, but this cannot be continued unless the income of the Charity be maintained.

Donors of Ten Guineas, in not more than two payments, and Collectors of Twenty Guineas are Life Governors of the College; Subscribers of One Guinea annually are Governors during the continuance of their Subscriptions. Contributions of a less amount than One Guinea are welcome.

The Council trusts that Medical Men will do all in their power to make this Jubilee Special Appeal a financial success. Gentlemen willing to act as Stewards on the occasion of the Festival Dinner should send their names to the Secretary as soon as possible. The office does not involve any pecuniary responsibility.

GEORGE P. FIELD, Chairman of the Dinner Committee.
J. BERNARD LAMB, Secretary.

Office: 37, Soho Square, W.

THE LANCET.

LONDON: SATURDAY, MARCH 7, 1903.

The Limitations of the General Medical Council.

WE have upon a previous occasion pointed out that both among the general public and also among members of the medical profession a great amount of ignorance exists as to the powers and duties of the General Medical Council.[1] The minutes of a meeting of the Executive Committee which was held on Feb. 23rd are now before us and the questions submitted to this committee show very well what we mean by the above-mentioned ignorance. Mr. EDWARD DENNIS VINRACE asked for "an authoritative ruling" upon the question whether or not members of the staffs of hospitals should sign school board certificates for children under their care. To this question a resolution of the committee stated that "the question raised is not one which comes within the scope of the committee's functions and the Executive Committee are therefore not in a position to give the 'authoritative ruling' which Mr. VINRACE desires." Another question submitted by Dr. W. H. BROOK asked whether a registered practitioner was allowed to administer anæsthetics for a dentist who was on the Dental Register, but who was acting as extractor to a dental company duly registered under the Companies Act but the members of which company were not on the Dental Register. To this the Executive Committee replied in the terms of the deliverance on the subject already given by the General Medical Council. This deliverance was to the effect that any registered medical practitioner who knowingly and wilfully assisted a person who was not registered as a dentist in performing any operation in dental surgery was liable on proof of the facts to be dealt with by the General Medical Council as having been guilty of infamous conduct in a professional respect. The Executive Committee confessed that it could give Dr. BROOK no further answer. Another question submitted by Mr. RUSSELL-RUBENS asked whether a medical man who attended a child after he had been circumcised by a Jewish "mohel" and unskilfully treated, or who gave a certificate after death (of such child), would be considered guilty of covering. To this the committee replied that it had no jurisdiction over unqualified practitioners, but that it is prepared to consider any complaint as to any unprofessional conduct on the part of any medical practitioner.

Now these questions and the replies thereto show very well the limitations of the General Medical Council. It is unfortunate that the full title of the General Medical Council is somewhat cumbrous for daily use, for it shows what that body is. It is the "General Council of Medical Education and Registration of the United Kingdom." It was created by the Medical Act of 1858 to enable persons requiring medical aid to distinguish qualified from unqualified practitioners. Its statutory duties are to look after the education of medical students and the registration of qualified medical men. It is not a medical protection society, or a medical trade-union, or a medical trade guild, or a medical defence union. It deals with one offence only—namely, "infamous conduct in a professional respect"—and under this head come such varying offences as advertising or the commission of adultery with a patient. The Council can only inflict one penalty—the removal of the offender's name from the Register—and such removal in no way precludes him from practising provided that he does not use any name or title implying that he is still registered. It will thus be seen that the General Medical Council has no power, however much it may have the desire, to answer or to deal with such questions as those which we have set out above. They are mainly questions with which we have dealt again and again in our columns. Mr. VINRACE mentioned in his question that some hospital medical men refused to sign school board certificates because they considered that to do so was injurious to the general interests of the profession. Although this point has not hitherto come before us yet we have always insisted that a medical practitioner should not give a school board certificate if such certificate is liable to be "revised" by an unqualified person. Dr. BROOK'S question involves a conflict between the letter and the spirit of the law. Technically speaking there is no reason why a medical man should not administer an anæsthetic for a registered dentist, and there was no question as to the registration of the dentist to whom Dr. BROOK referred. But, as Mr. C. S. TOMES pointed out in a letter to the registrar, a medical man giving an anæsthetic for a registered dentist who is acting for a company of unqualified men is indirectly encouraging "a state of things of which he must disapprove." The question as to circumcision, again, is practically one which raises the whole matter of unqualified practice. In our opinion no medical man should refuse to treat a child who is suffering in consequence of the negligence or ignorance of a "mohel," but in case of the child's death the medical man should refuse to give a certificate and should at once inform the coroner of the facts.

As the law at present stands unqualified practice is absolutely legal. Any person however ignorant, however dirty in his methods, may treat any patient, may prescribe any poison, may give away any poison, may administer an anæsthetic, or may perform or try to perform any operation on anyone who is fool enough to submit himself or herself for treatment. So long as the unqualified practitioner does not imply that he is registered or refrains from *selling* a scheduled poison, and provided that the victim whom he treats does not die, the law itself, to say nothing of the General Medical Council, is absolutely powerless. That this state of things should exist is neither more nor less than a scandal and the only possible reason why the law allows it is that it considers that a man has a right to do as he pleases with his own body so long as he does not interfere with the health of his neighbour's body. But it is useless to blame the General Medical Council for not interfering in a state of matters over which it has no control.

[1] THE LANCET, August 30th, 1902, p. 574.

A solicitor who is struck off the rolls by the High Court at the instance of the Incorporated Law Society, or who even fails to pay for his annual certificate, or a barrister who is disbarred is thereby precluded from practising. A medical man who is struck off the Register can still practise. His only disabilities are that he is unable to sign a death certificate, to sue for fees, and to hold certain public appointments.

In order that the General Medical Council should have more power it is necessary that the law as to unqualified practice should be amended. Unqualified practice should either be made illegal or, if that be considered impracticable, a licence should be made obligatory and such licence should be made to cost a very large sum. It need not be any guarantee of knowledge or skill any more than a licence to sell beer or tobacco is any guarantee of the purity of the goods sold. But if such licence were made to cost, say, £500 per annum the being struck off the Medical Register would be a punishment in reality instead of being, as at present in the case of the gross offender, little more than nominal.

The Relation of Dyspepsia to Eye-strain.

FEW terms are more familiar to the ear of the physician than that of "biliousness." By the laity it is held to constitute an altogether satisfactory explanation of a multitude of symptoms which, whilst collectively they produce much discomfort, are so inconstant in their seat and manifestation as to prevent their rising to the dignity of a definite disease. Has a man some swimming in his head on rising he is "bilious"; does he suffer from flatulence, nausea and want of appetite, from low spirits, and from inability to read without headache, he is "bilious." He proceeds to dose himself with salts and feeds himself on articles of diet which the advertisements assure him will promptly remove every ill. At length, failing to obtain relief by these means, he betakes himself to some prudent and experienced practitioner who, casting about for the hidden cause of his patient's troubles, minutely inquires into his habits of life, his diet, the state of his alimentary canal, his allowance of tobacco and of alcohol, and the time he can devote to exercise. Sometimes the answers to all these questions are atisfactory, while sometimes modifications can be suggested and some degree of improvement generally follows; if not, then mental worry or, it may be, uterine trouble is diagnosed and rest, change of air and scene, or a system of topical treatment is advised and adopted. Then again a partial or complete restoration to health is effected and the ordinary avocation is resumed. But the cure is soon found to have been, like the former, only temporary. The dyspeptic symptoms and the disposition to look at the dark rather than at the bright side of things in general recur and with all this there are headache and incapacity to work or even to try to work. After a time the victim becomes inured to his troubles, ceases to apply remedies, finds out what is best for him, and rests satisfied that his disease is alike inscrutable and incurable.

Such is the life-history of many distinguished literary and scientific men. In a highly suggestive volume[1] that has just been published Dr. GEORGE GOULD of Philadelphia has selected as examples five well-known men—DE QUINCEY, CARLYLE, DARWIN, HUXLEY, and BROWNING—all of whom, whilst daily performing a prodigious amount of work, were constantly complaining of dyspepsia, inability to read or to work, and headache. He endeavours to show that in all these cases the primary defect, the starting-point of the whole train of symptoms, has hitherto been strangely overlooked and is to be really found in some error of refraction in the eyes—such, for example, as hypermetropic or mixed astigmatism or some defect in the innervation of the extrinsic muscles of the globes. With this clue everything, he maintains, becomes clear and the symptoms range themselves with those that are very familiar to the ophthalmic surgeon. They are persistent because the cause is persistent. They disappear or are greatly relieved when work is given up and long walks or rides are taken in the open country and in the gloaming for the eyes are then no longer strained; they are increased on the resumption of literary or scientific work, for the efforts to obviate the defects are recommenced; the headache, anorexia, and depression of spirits are all reflex phenomena well known in ophthalmic practice. Lastly, they entirely disappear when the error of refraction is duly corrected by appropriate glasses. The conditions required for the recognition of a *vera causa* are fulfilled—*præsens morbum facit, sublata tollit.*

It may, indeed, be said that the view here advanced proceeds naturally from the ophthalmic specialist and we are irresistibly reminded of the shoemaker who declared to the citizens of the beleaguered city that there was nothing like leather; but Dr. GOULD is an accomplished physician and supports his opinion with so much ingenuity that our first disposition to smile gives place to the feeling that there is much to be said in its favour. It is to be remembered that the healthy eye can bear an enormous amount of work without harm either to its own structure and functions or to those of the body at large; it is only the ill-formed astigmatic or otherwise defective eyes which are compulsorily brought into play that are instrumental in inducing the long chain of symptoms that constitute the troublesome and obscure affections dyspepsia and hypochondria. Our knowledge of the etiology of these conditions has been masked by the circumstance that the efforts of the patients to use their eyes are not made apparent by any marked symptoms of inflammation in these organs themselves, but are apt to excite a train of neuroses which have hitherto distracted the attention of physicians from the eyes and concentrated it upon the stomach, brain, or other organ to the distress of the patient and the opprobrium of medicine. Dr GOULD sometimes takes for granted what a Scotch jury would return as "Not proven." But it is clear that in every case in which the various symptoms commonly included under the terms chronic dyspepsia and "biliousness" are present and prove resistant to ordinary treatment it would be well to obtain the advice and opinion of an

[1] Biographic Clinics: The Origin of the Ill-health of De Quincey, Carlyle, Darwin, Huxley, and Browning. By George M. Gould, M.D. London: Rebman, 1903.

ophthalmic surgeon, for this can certainly do no harm and may quickly abolish the trouble and restore the patient to health.

"Run Down."

THE claims of medicine to be ranked as one of the exact sciences meet no more formidable reproach than the undeniable one that certain ill-defined terms are used by some or all of its followers to cloak a multitude of vague disorders. The most familiar perhaps of these is the universal "rheumatism," a term which even in these enlightened days is commonly employed to designate a number of disorders the pathology of which, if still to a large extent unknown, is, at any rate, almost certainly of very diverse kinds. Our ideas of rheumatic fever appear certainly, thanks to recent bacteriological researches, to have gained a foundation of exact knowledge, but he would be a rash physician who ventured to define the limits or the pathological essentiality of muscular rheumatism or of rheumatoid arthritis. We shall be told, no doubt, and confidently told, that the latter is, of course, a microbic affection. When we ask for even a vestige of actual proof it will not be so easy to satisfy our demands.

Among the many conditions, the circumstances of which are so familiar and the actual nature of which is so obscure, there is none perhaps more commonly met with than that which is known as the state of being "run down." The expression is a good one to describe a certain physical and mental state in our present ignorance of its pathogenesis. To say that a man is "run down" conveys quite plainly to our minds that there is a general depression in the vitality of the organism, a depression that is widespread, embracing the purely physical as well as the intellectual functions, while at the same time the term gives no hint whatever as to the anatomical site or the pathological nature of the underlying cause. This negative nature of the name for a condition with which we are all only too familiar is unfortunately completely justified by an entire absence of exact pathological knowledge with reference to the condition itself. Certain experiments and observations upon fatigue in school-children may bear definitely upon the point in question. Except these we can recall no positive knowledge bearing upon the state which we may suppose to be present in a person who is, as we say, "run down." We cannot get much nearer to a definition of this condition than to describe it in wide terms as one of fatigue. We possess certainly a fair sum of chemico-physiological knowledge relating to fatigue so far as muscle tissue is concerned. As regards the fatigue of mental functions and of digestive, secretory, and absorptive functions we still know remarkably little. This little we would probably express by saying that in the condition to which we are alluding there is a general depression of innervation, that the higher centres of the brain are depressed, and that there is a lowered condition also of all the organic functions resulting in an incomplete performance of digestion and assimilation, consequently in impoverished nutrition and also in impoverished power of muscular action. The resulting impoverished blood reacts upon the nervous system which is imperfectly fed and thus a vicious circle is completed.

In the production of this condition, as it is most commonly seen, monotony of action—whether physical or mental—seems to play a very important part. The typical case of a man who is "run down" is that of the business man who, with the regularity of a timepiece, goes from his breakfast table to his office chair, from his office chair to the luncheon-room, from luncheon to the office chair, and from the office home again in the evening. This process repeated day after day, accompanied by an occasional attack of dyspepsia or of insomnia, or of extra business worry, tends to depress even an ordinarily healthy constitution. On the nervous or delicate the condition of being "run down" is frequently imposed before the machine-like existence has been many years, or even many months, in play. Man is not meant for monotony. A constant recurrence of the same activities, the same thoughts and the same associations appears to produce a dead level of mere weariness, even though the daily round is of itself made up of varying details. Thus, in the instance we have taken it might be thought that in the short railway journey, in the meeting of daily companions, and in the little interval at luncheon enough variety would be imposed upon the city man's existence to save him from monotony. But the variety is itself monotonous. He cannot vary his railway journey, he cannot vary his daily meetings, or even, in many cases, his place of luncheon, and so the daily round becomes wearisome, and the excursions for luncheon become as trying as the monotony of a sandwich in the office.

We have glanced at the pathology of the state of the man who is "run down" and we have briefly alluded to one potent factor in the production of this condition. We may therefore in a few words suggest a remedy. The nature of this will be obvious from what has just been said. The first step towards saving us from getting run down will be taken if we can save ourselves from monotony. At will a man cannot change his main daily occupation. As a business man, he must attend to his office work; as a professional man, he must execute the daily duties of his calling; and for most men the greater part of every 24 hours is thus absorbed. Even then, however, there are little intervals and there are gaps before and after the actual working hours. It is here that a variety of pursuits should save the mind from the dulling effects of monotony. The brain should be trained, so to speak, to switch itself off directly the opportunity occurs and instead of continuing to weary itself with the contemplation of business or professional complexities should revel as soon as active work is stopped in other intellectual fields. The pleasures and distractions of the society of one's fellow-creatures, to some temperaments the most complete of all alleviations of worry, are not always at hand. But a hobby may be constantly accessible and it behoves all men who find themselves "run down" to make an attempt towards the enjoyment of some intellectual activity different from that constantly demanded by their daily occupation.

Regulations in regard to Cremation.

LEGISLATIVE sanction[1] has recently been accorded to cremation as a means of disposing of human remains in this

[1] Cremation Act, 1902 (2 Ed. VII., c. 8), Sec. 7.

country and consequently the practice is likely in future to supplant, to a greater or less extent, the ordinary custom of burial. It is in its relation to the public health more especially that cremation has a peculiar interest for our profession; and if we regard it from this point of view exclusively, apart from religious sentiment, it will generally be admitted that the practice has very much to commend it. With an urban population increasing at even its present rate and with the consequent rapid disappearance of available cemetery land it is obvious that not many years can elapse before it will be simply impossible, with due regard to the safety of the living, to find ground for interment in the usual way; and this difficulty will, of course, be greatest in the neighbourhood of our great centres of population, such as London, Lancashire, parts of Yorkshire, and the Potteries, in none of which districts has the problem of the safe disposal of the dead even approximately been solved. Considerations of this kind have evidently weighed with the Government which only last year succeeded in placing upon the statute-book an Act for legalising and regulating the practice of cremation in England. It is important to note that Section 7 of the Cremation Act imposes upon the Home Secretary the duty of framing regulations for the inspection and maintenance of crematoriums and also of prescribing the conditions under which the burning of human remains may take place. Accordingly, in October last Mr. AKERS-DOUGLAS appointed a departmental committee consisting of Mr. TROUP and Mr. BYRNE of the Home Office and Dr. H. FRANKLIN PARSONS of the Local Government Board, and their report, which has evidently been prepared with great ability and care, has been issued as a Blue-book during the past week.

As regards the proposed regulations for the general management of crematoriums the committee has been largely guided by the experience of the English Cremation Society and by the rules drawn up for that society by its President, Sir HENRY THOMPSON. But, as we should have expected, the portion of the subject which the committee has discussed with particular minuteness is that relating to the conditions in which, for the future, cremation ought to be permitted. Under this head the committee says: "The point which we have considered of prime importance has been to frame regulations which, while avoiding unnecessary restrictions such as might discourage cremation or involve unnecessary delay in the disposal of the body, would reduce to a minimum the risk of cremation being used to destroy the evidence of murder by violence or poison." With the object of avoiding as far as practicable this risk the committee has carefully studied the records of past cases of murder and has directed special attention to the question of what certificates or other evidence of the cause of death had been produced before burial took place. In some of these cases the committee found that the bodies of murdered persons had been buried without any certificate of the cause of death and it pointedly draws attention on more than one occasion, in the course of its report, to what we consider a scandalous fact, namely, that "the existing law permits the burial of a human body without medical testimony as to cause of death and even previous to registration of the death. Unless, therefore, some definite ground of suspicion arises there is no investigation of those cases where the cause of death is obscure and where the ambiguity of the symptoms can be slurred over in a certificate which it is no one's business to question or criticise."

In framing regulations having for their object the minimising of the danger of cremation being used to destroy evidence of crime, the committee had first to decide to whom should be intrusted the responsibility of authorising or of forbidding cremation in every individual case. After discussing certain alternatives, the committee advises that the person to decide this point should be a medical referee specially qualified for the work and appointed by the cremation authority. The latter part of this recommendation appears to us, however, to be open to serious objection. The person to whom such high responsibility is to be intrusted should be absolutely independent of the authority whose operations he is appointed to control. The committee insists on the production in each case of two certificates of the cause of death, one from the medical attendant of the deceased and a second from an independent practitioner. The trustworthiness and sufficiency of these certificates are to be decided upon by the medical referees, whose duty it is to require a post-mortem examination by a pathological expert or a coroner's inquest as a condition precedent to cremation in any case in which the slightest suspicion attaches to the manner in which the death took place. The committee appends to its report the draft of a very complete and apparently satisfactory series of regulations with regard to the inspection and maintenance of crematoriums and also a schedule of forms of medical and other certificates to be used in cases of cremation. Incidentally the committee refers to matters of importance concerning the certification and registration of death which will, we trust, receive that attention which they undoubtedly deserve from the Registrar-General and his staff. Most valuable evidence, which has been published in its report, was given to the committee by Sir HENRY THOMPSON, Dr. THOMAS STEVENSON, Dr. G. DANFORD THOMAS, and Dr. H. T. HERRING. The last-mentioned gentleman was unquestionably justified in expressing the opinion that the registrars of death ought to be "a little more literate" than they frequently are: and this is especially desirable because at the present time they are the only men who have power to question certificates of death in cases that are not reported to the coroner.

Annotations.

"Ne quid nimis."

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

THE Public Control Committee of the London County Council has made a report to the Council upon the subject of post-mortem examinations in inquest cases of a special nature, and the Council has adopted its recommendations. The committee, as was announced in our columns, recently received deputations from the South-West London Medical Society and from the medical and surgical staff of St. Thomas's Hospital, when representations were made as to the manner in which Mr. Troutbeck interpreted the view of the Council that

post-mortem examinations in cases of a special nature should be entrusted to a specially skilled pathologist. The members of the committee, having given full consideration to the matter, and having seen Mr. Troutbeck and learned the number of inquests which he had held in his double capacity as coroner for the South-Western District of London and for Westminster, make suggestions which show that they are desirous of removing the grievances that are complained of. "We think," the report runs, "that in cases where a medical practitioner had been in attendance, if it is intimated to coroners that whenever they are of opinion that the evidence of the medical attendance is material to the proper elucidation of the case he should be invited to be present at the post-mortem and summoned to give evidence at the inquest, although a pathologist may have been employed." This course, they add, has been suggested to them by Mr. Troutbeck, and we are glad to learn this, for it implies that we shall hear no more of the coroner's officer being sent to get medical information from the professional adviser. When medical evidence is required it will be given upon *subpœna* and the witness will, of course, be paid the statutory fee for his evidence. The report acknowledges the correctness of the view taken by THE LANCET that in the present state of the law the appointment of a salaried pathologist cannot be made by the London County Council, but the committee recommends that it be authorised "to obtain the names of several competent pathologists who will be prepared to make post-mortem examinations and give evidence in special inquest cases at the fee of £2 2*s.* per case." The line taken by the committee is evidently one of conciliation. When medical evidence is required it will be given upon *subpœna* and be duly paid for. When a special pathologist is required—and nobody doubts that this contingency arises—it will be attempted to provide coroners with a list of medical men of recognised standing in the profession, from whom the expert witness may be chosen. Discretion must remain with the coroner to decide when medical evidence is essential to the finding of an incontrovertible verdict and when a case presents pathological features. In both cases a non-medical coroner is placed at a disadvantage, but we trust that the medical men in Mr. Troutbeck's districts will do him the justice of believing that he will try to act fairly towards them. Their action in refusing to give medical evidence save upon *subpœna* has now been endorsed by the Control Committee of the London County Council and cannot again be impeached by anyone as childish or greedy. Their feeling that a reflection on their competency is intended should be removed by finding that the expert witness is only to be called in special cases and will be chosen from men of standing in the medical profession.

WHICH IS THE GREATER OFFENCE?

WITH regard to several cases of fraud which were recorded in the papers last week it is interesting to consider the nature of the offences and the degree of punishment that was inflicted. Karl Frederick Kramer was convicted of committing a fraud against the excise. He was ingenious enough to import saccharin into this country under the name of sulphate of aniline. As a matter of fact the substance was a loose compound of saccharin and aniline from which the saccharin could easily be separated. The defendant managed to evade the duties and customs in this way for about a year. He was ultimately found guilty and the penalties amounted to as much as £9300. The offence was clearly that of fraud against the excise, there was no question of this trick having any prejudicial influence upon health. The following cases, however, illustrate the utter indifference of some persons as to whether or not they poison the public. A farmer and dairyman from Exeter was fined at the Guildhall Police-court £20, with £4 4*s.* costs, for sending to the Central Meat Market, London, the carcasses of two pigs which were diseased and unfit for human food. Again, a dealer from Leicestershire was summoned at the Guildhall for being the owner of certain diseased meat that was deposited in the Central Meat Market for the purpose of sale. The carcasses all showed signs of a wasting disease. The fine in this case was £100 and the costs were £3 3*s.* In another instance a firm of shopkeepers in Regent-street, London, were summoned for selling cocoa containing 40 per cent. of sugar, 27 per cent. of starch, and 0·15 per cent. of red oxide of iron. The defendants were fined £3, with 12*s.* 6*d.* costs. It is evident that the heinousness of an offence is not represented by the amount of a fine, for surely a fraud calculated to cause injury to health is of a worse description than a fraud which cheats the excise. Yet in the latter instance the fine is generally enormous, and in the former it is, comparatively speaking, microscopic. Morally the offence which is calculated to prejudice health is greater than the offence against the excise laws of the country. Legally, however, it is obviously not so. In short, the fines inflicted on persons who knowingly send diseased meat for sale into the market are altogether inadequate.

INSTANCES OF EXTREME OLD AGE.

THE *Daily Chronicle* reports "the Royal College of Surgeons"—a synonym in this case for the whole of the medical profession—as "mightily concerned" with what the Russian newspapers are supposed to have published regarding an alleged "bi-centenarian" now lying bedridden in a hospital at Tomsk. John Hunter might have sent an emissary to report on this reputed marvel—indeed, he once despatched a man on a Polar expedition—but the College does not encourage such quests as these at present. It is not probable that a greatly moved College is sending officially for the old man's papers, though of course it would not refuse his likeness or any properly authenticated account of him. The difficulty is to prove the authenticity of centenarians' claims. The Methuselah of Tomsk bases his on an ancient passport, dated 1763, in which someone is described as being aged 60 in that year. Supposing such a paper to exist it would only prove that a man of the same name as the bi-centenarian was alive in 1763. Peasants or small farmers, to which class this old man belongs, have often accumulations of ancient papers, and, when not illiterate, often sign the same Christian names from father to son for centuries. A portrait of the old man would not help us either; it would only prove him to be looking very old. The interest in centenarians is always great and indeed to some people fascinating. As recently as 1878 a certain Michael Solis, of semi-Spanish origin, resided in Bogota, Colombia, and was alleged to be 184 years old.[1] *La Epoca*, a New Granada journal, wrote at the time of one Miguel Lollo, whom we take to be identical with Michael Solis:—"The signature of this venerable *anciano* [ancient] is affixed to a deed relating to the foundation of a convent, and is dated 1712. Dr. Hernandez who had heard about this Miguel Lollo, was desirous of making his acquaintance, and found him busy gardening. His skin is like parchment, and his hair as white as snow." It militates against the genuineness of both Michael Solis and the old man of Tomsk that during the last 60 years or so previous to what we may describe as their discovery no one had ever seen or heard of them. They are apparently unknown to such well-known writers on

[1] THE LANCET, Feb. 14th, p. 487.

centenarians as Easton of Salisbury and Sharon Turner. Mr. Redding Ware, who mentions Lollo with caution in 1885, knows nothing of the Tomsk man. Surely a bi-centenarian should have been famous for years, as was Henry Jenkins, the old English peasant who died in 1670 but had been visited by various witnesses from 1650 onwards. Moreover, Jenkins had specific recollections, such as that of taking a horse-load of arrows in the direction of Flodden Field in 1513, whereas the Russian peasant above discussed seems only to refer vaguely to remote persons and events.

A MEDICAL OFFICER IN ANCIENT GREECE.

AN ancient inscription more than 2000 years old has recently been discovered at Amphissa in Greece which is particularly interesting to all members of the medical profession. It is a decree of thanks to a doctor honouring him for his good works, and being practically complete is probably one of the oldest documents containing an eulogium of a medical man in existence. We give the text complete as it speaks for itself, adding only a few words of commentary further to elucidate its meaning. The text itself and most of the supplementary remarks are derived from an essay upon the inscription by M. Wilhelm Vollgraff.[1]

To propitious fortune.

The Archons and the city of the Amphissians to the Archons and to the city of the Scarphians greeting. We have forwarded to your town a copy of the decree engrossed by our city in honor of the doctor Menophantos, son of Artemidorus, a Macedonian of Hyrcania, as Menophantos has requested us to do.

In the month of Amon the .....day. Proposition of the nonarchs. Take notice that Menophantos, son of Artemidorus, Macedonian of Hyrcania, doctor, having been invited by our city, has established himself therein and has on his sole account accepted the responsibility of the medical duties. Behold when most serious diseases manifested themselves he ably cared for us and next to the gods it is to him, thanks to his exertions and personal energy, that our attacked citizens were rescued.

Take notice, he has been attested as irreproachable for having lavished his cares upon all without distinction, with constant honesty and perfect equality, and for having watched over all things (or cases) with benevolence.

Take notice that he has conducted himself during all the period of his sojourn among us with modesty and wisdom and has manifested a department of perfect dignity worthy of the city and his profession. Also and moreover, notwithstanding [his advanced] age and [accidents] which have befallen him, he has acted in departing from our city

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curing all the assembled sick and giving public consultations? [this rendering is doubtful]. We grant Menophantos the Proxenia and give him permission ..... We present to him ..... because of his great attention and for his benevolence. In order that there shall exist a visible monument of this Proxenia accorded to Menophantos we have forwarded a copy of this decree to the city of the Scarphians, and we make the following proclamation. The Amphissians have presented to Menophantos, son of Artemidorus, to him and to his descendants, the Proxenia, the right to acquire property, the rights of pasturage, protection in war time as in times of peace, and all the other privileges which the laws grant equally to the other proxenies.

It is not necessary here to set forth M. Vollgraff's reasons for dating the inscription in the second century B.C. but they are sufficient. Scarphia, the city which for some reason the Amphissians and Menophantos desired should also exhibit a copy of this decree in honour of their medical resident, was close to Thermopylæ. It was but a short distance from Amphissa, which latter was close to Delphi. The medical man was evidently a descendent of some Macedonian who was a colonist of Hyrcania in Lydia, and who possibly emigrated there under Alexander or his successors; but as we are told that one of the Selucid princes settled Macedonians in the Hyrcanian plain, which was in the Hermus Valley in the neighbourhood of Magnesia, his ancestors may be considered as coming from Macedonia at that time. The name of Menophantos is not a Macedonian one but evidently commences with the title of the deity Men who was a god of healing. Many Greek medical men assumed names formed of compounds with the name Men, such as Menodotus, Menodoros, and Menophilos. Moreover, close to the Hyrcania from which Menophantos came, Strabo tells us there was a temple of the god Men and at this sanctuary there was a school of medicine. It is quite possible this school existed in the youth of Menophantos and that he studied there. There are some 20 honorary decrees, or notices, of medical men in the various collections of ancient inscriptions, showing that the members of the profession were in many cases worthy citizens and virtuous and kindly men and, further, that their efforts for the amelioration of the bodily ailments of their fellow creatures were fully appreciated. Two of these texts may be found in Newton's "Greek Inscriptions in the British Museum," vol. ii., pp. 143 and 258, and others in Messrs. Paton and Hicks's "Inscriptions of Cos," Nos. 5 and 344.

[1] Bulletin de Correspondance Hellénique, 1901, pp. 234-240.

THE NATURE OF A JELLY.

IT is a remarkable fact that water may be made to assume apparently the solid form by adding 1 per cent. only of gelatin to it. The more or less stiff jellies used as table delicacies contain probably over 95 per cent. of water. The jelly-fish similarly contains only a small percentage of solid matter. This remarkable property of gelatin of rendering water, so to speak, solid has been a problem to physicists. It is generally maintained, however, that after all the water in a jelly is in a fluid condition and that therefore it retains its properties unchanged. According to this view the solid condition of a jelly is a property of the gelatin itself. At any rate it has been established that a jelly behaves under certain physical experiments very little differently from water. Thus jelly offers little more resistance to the passage of diffusing substances than does pure water. The condition of water in a jelly, therefore, resembles its state when absorbed by a highly porous substance such as pumice stone or sponge. In other words, the gelatin on setting forms a sort of fine spongy network in which the liquid water is held captive by capillary forces. Gelatin is, in short, a very capacious carrier of water, and it is not unreasonable to suggest that in those cases in which the conveyance of some liquids is found to be inconvenient the use of gelatin might afford an easy way out of the difficulty. Thus, by dissolving a very little gelatin in milk the milk could be carried in solid blocks. Moreover, the milk would gain rather than lose nutrient value by the process.

THE HOSPITAL PROBLEM IN LONDON.

A MEETING of the Hospitals Association was held at Caxton Hall, Westminster, on March 3rd, when a full attendance was present to hear an address by Sir Henry Burdett entitled, "The Hospital Sites and Population in London." Sir Henry Burdett discussed in an interesting and practical way the problem as to whether any, and if so which, of the large hospitals ought to be moved from their present sites to new ones situated in less congested districts or, alternatively, into the country. He gave figures to show that the accepted ideas with regard to the ratio of general hospital beds to population was very far from accurate. It is common to speak of the deplorably inadequate supply of hospital accommodation, but Sir Henry Burdett showed that the population within the whole of the postal district of London was, in his opinion, well supplied with general hospital beds, although certain districts were not so fortunate. Among many pregnant suggestions, he alluded to the possibility of certain amalgamations of existing hospitals as being likely to result in a more uniform supply of hospital accommodation in different districts. Mr. Sydney Holland pointed out that one difficulty of procuring the combination of hospitals would be the objection raised by the medical staffs, and other speakers alluded to different manifest objections to the transporting of hospitals from their original sites. Various speakers touched upon the powers and duties of the London County Council and the London Boroughs in respect of municipalising hospitals, and Sir Edmund Hay Currie probably

expressed the feeling of most of us who have deliberated over this difficult question when he said that the transplantation of ancient charities must be approached in the most gentle manner possible. The address and subsequent speeches formed an interesting contribution to one of the most urgent questions of modern London sociology, and we hope in a later issue to give a fuller report of the meeting and to comment upon some of the suggestions that were made.

THE PREVALENCE OF SMALL-POX.

CASES of small pox continue to occur at various places in the north of England. Thus 2 cases have occurred in Altrincham and 5 cases from Dunham Massey are under treatment in the isolation hospital at Baguley. In addition we regret to state that Mr. T. W. H. Garstang, the medical officer of health of the Bucklow Union, has been attacked by the disease, but fortunately in a very mild form. At Wrexham 3 cases have recently been notified, while at Liverpool 105 cases had occurred in the week ending Feb. 27th, as against 54 in the previous week. Swansea, it will be seen in the letter from our Welsh correspondent, which appears at p. 689, has been free from small-pox for some weeks. The Local Government Board for Scotland intimate that during the period from Feb. 15th to 28th inclusive one case only of small-pox has been notified to them—viz., the case of a fireman on board a ship which arrived at Glasgow on Feb. 8th.

HYDATID CYST OF THE HEART: RUPTURE INTO THE LEFT AURICLE.

IN the *Intercolonial Journal of Australasia* of Dec. 20th, 1902, Dr. C. A. Altmann has published a rare case of hydatid disease. A servant girl, whilst gathering chips to light a fire, suddenly fell down in a fit. In about ten minutes she was seen by Dr. Altmann who found her dead. She had been apparently in good health except for a slight headache on the previous day. About three weeks previously her life had been insured as a first-class one. The necropsy showed that the posterior wall of the left auricle was occupied by a hydatid cyst, of about the size of an orange when full, which had ruptured into the auricle. The heart was enlarged and with the empty cyst weighed 13 ounces. The left external carotid artery was blocked by a daughter cyst at its point of entrance into the cranium. Permission could not be obtained for making a thorough dissection of the vessels of the neck.

HYGIENE FOR OUR GIRLS.

A WORK on the subject of personal hygiene for women emanating from a French source and written by a French woman could hardly be expected to be taken seriously, in this country at least, where considerations of personal hygiene for women and children present fewer features of novelty. The reader, however, who takes up Madame Augusta Moll-Weiss's little book of advice for "The Mothers of To-morrow,"[1] with the expectation of deriving amusement or of finding material for superior criticism will be infinitely disappointed, for not only is the subject matter handled in a thoroughly sound and scientific manner, but such delicate subjects as come under review are treated with so much appreciation of modesty that it would be difficult for a translator to find an equivalent *finesse* of expression in the English rendering. When the author takes up her parable it is to preach the gospel of plain living and high thinking, cold-water baths, hygienic costuming, and muscular exercise, and on what better text would it be possible to enlarge? The programme for physical recreation appears, however, lamentably uninteresting and limited in comparison with the possibilities which are open to girls in this country for healthy exercise. There are certain points touched upon in Madame Moll-Weiss's little book in respect of which those of our countrywomen who are interested in "l'éducation de la jeune fille d'après sa physiologie" may certainly study with advantage, and not the least of these is the question of appropriate dressing. The words of advice which Madame Moll-Weiss has to offer on this subject are so strictly sensible, hygienic, and practical that we imagine that they will appeal not only to "les mères de demain" for whose benefit they are written, but even to the "mere male" who takes up this little book out of curiosity. The young women of to-day will perhaps hardly sympathise with, or indeed believe in, the statement that "le vêtement est fait pour le corps et non le corps pour le vêtement."

[1] Les Mères de Demain, by Madame Augusta Moll-Weiss. Paris: Vigot Frères.

SIR ERNEST CASSEL'S GIFT FOR THE RELIEF OF OPHTHALMIA IN EGYPT.

THE recent generous gift of £40,000 intrusted to Lord Cromer and his successors in office by Sir Ernest Cassel for the relief of ophthalmia and diseases of the eye and for the training of qualified men for such work in Egypt was the direct outcome of the Khedive expressing interest in the subject. The Khedive saw the proposal for an ophthalmic research hospital which had been submitted by Mr. Kenneth Scott of London in the hope that the funds required for starting it might be provided. The officials of the Sanitary Department of the Egyptian Government, into whose hands the expenditure of the sum has virtually passed, have decided to employ it in establishing a tent in the form of a "travelling dispensary," to suffice for all purposes of operation and treatment and to work solely in the provinces. They will appoint an additional English inspector for a temporary period to travel with it, accompanied by a native Egyptian medical man, a post-graduate local medical student, two male hospital attendants, and two servants. Beyond the initial cost of about £250, its annual maintenance, inclusive of salaries, is estimated at £900.

THE QUESTION OF FORECASTING LONDON FOGS.

WE mentioned in an annotation in THE LANCET of Oct. 26th, 1901, p. 1139, that electric and gas lighting companies had approached the Meteorological Office upon the question as to whether a system could be established by which special forecasts or warnings of the onset of fogs could be issued. Subsequently the Meteorological Office communicated with the London County Council upon the subject with the result that the General Purposes Committee practically agreed to coöperate with the Meteorological Office in setting on foot an inquiry into the conditions of formation of fog in and around London, and £250 were voted for the purpose. The report has recently been laid before the council and although some interesting observations have been made the results on the whole are, it must be confessed, disappointing. It was ascertained that elevated stations are less visited by fogs than other stations, but the real locality of fog at any particular time would appear to depend upon local atmospheric conditions. The beginning of a fog is a widespread process depending upon general atmospheric conditions. It does not appear that fogs which form outside drift into London. That is practically all that the inquiry has shown, but it is pointed out that a regular system of observations of temperature might indicate the possibility of predicting fogs locally. The report certainly suggests further investigation upon certain points, but the London County Council decided at its last meeting not for the present to

vote any further sum of money towards a continued prosecution of the subject. We come back thus to a conclusion, long ago arrived at by ourselves, that it is impossible to prevent the formation of fog but that it is possible to prevent its defilement with soot, as the Coal Smoke Abatement Society has shown.

ST. BARTHOLOMEW'S HOSPITAL.

THE committee which was formed, as we announced in THE LANCET of Jan. 24th, p. 254, for the purpose of inquiring into various matters concerning St. Bartholomew's Hospital has decided at least one point of the terms of reference—namely, that the hospital shall remain upon its present site. This decision was arrived at by 14 votes to one. Sub-committees have been appointed to inquire into the question of cost and other matters. We learn that it is not intended to enlarge the hospital but to make such alterations as shall bring the hospital buildings into accord with modern ideas. The determination to remain upon the existing site is, we think, a just and right one. We have already[1] given our reasons for thinking that the present site should be retained, while at the same time we pointed out the difficulties in the way of such a decision. We need not repeat what we have said upon this matter, but we await with interest the reports of the sub-committees which have been appointed to consider the financial side of the question.

THE DISTRIBUTION OF PLAGUE.

As regards the Mauritius a telegram from the Governor received at the Colonial Office on Feb. 27th states that for the week ending Feb. 26th there were 3 cases of bubonic plague and 1 death from the disease. As regards the Cape Colony the medical officer of health of the colony states that for the week ending Feb. 7th 2 cases of bubonic plague, both in male natives, were discovered at Port Elizabeth. The one case was admitted to hospital on Feb. 4th and died on the 6th; the other case, admitted on Feb. 6th, remained in hospital at the date of the statement, Feb. 9th, being the only case in the plague hospital at the end of the week under review. No case of plague had occurred at any other place in the colony, but rats were reported from Graaf Reinet on Jan. 31st to be dying in a suspicious manner. An investigation was made and the disease from which the rats were suffering was found to be plague. As regards Hong-Kong a telegram from the Governor received at the Colonial Office on March 3rd states that for the week ending Feb. 28th there were 12 cases of plague and 12 deaths from the disease. As regards Egypt no cases of, or deaths from, plague have occurred during the week ending Feb. 22nd.

THE CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.

THE third annual report of the bacteriologist of the above laboratory, Dr. William G. Savage, illustrates again the usefulness and importance of such an institution and we hope in the interests of public health that municipal laboratories will be the rule before long throughout the country. This hope is amply justified by the following examples of the work carried out in the Cardiff and County Public Health Laboratory. Many waters from suspected supplies and proposed new sources have been investigated. Data of value for determining the purity of water-supplies were thus obtained which proved of much practical utility in enabling opinions to be formed as to the purity of any given supply. Moreover, samples of food have been bacteriologically examined and as a result a large proportion of the samples of diseased meat was found to be from animals suffering from tuberculosis and half the samples of so-called sterilised milk proved to contain organisms. A large number of specimens sent in by medical men were examined during the year and as is pointed out the identification of doubtful cases of diphtheria, typhoid fever, and other diseases is very greatly aided by bacteriological examination. Other work done in the laboratory has dealt with methods of disinfection, the extermination of vermin, and the condition of sewage effluents and waste waters discharged into streams from industrial works.

[1] THE LANCET, Jan. 17th, 1903, p. 180.

HORSED AMBULANCES FOR LONDON.

WE are glad to learn that the London County Council is considering in committee the formation of a service of horsed ambulances for London. Such ambulances have existed in Liverpool for some 20 years, while Blackpool, Birmingham, and Wolverhampton also possess them. The ambulances, however, do not belong to the aforesaid municipalities but to the local hospitals. Here in London we have neither municipal nor, we think, hospital horsed ambulances, excluding those possessed by the Metropolitan Asylums Board. The Ambulance Corps of the Order of St. John of Jerusalem possesses some, but these, so far as we know, are the only horsed ambulances available in the case of a street accident. The very horses of the two great omnibus companies are in better case than is the casual citizen, for these hard-working and willing animals are conveyed home in an ambulance should they fall in the street, provided that they are not so badly hurt that the merciful bullet has to be called into requisition. Every surgeon on the staff of a London hospital, and most house surgeons, can recall cases of street accidents where injuries have been gravely increased by the methods of conveying the patients to the hospital. The surest way of rendering a simple fracture of the leg compound is by crowding the patient into a hansom, yet this is not uncommonly the course pursued by the good Samaritan who assists at a street accident. It is proposed, we believe, that the ambulance service should be in connexion with the fire brigade. If this means throwing extra duties upon the fire brigade we hope that this part of the scheme will fall through and, moreover, we trust that a special ambulance stud will be provided, for a fire-engine horse is not the most fitting motive power for conveying a case of severe accident to the hospital, although the fire-engine horses are used for the purpose in some cities.

Mr. Thomas Wilson, M.D. Lond., F.R.C.S. Eng., who has held the office of assistant obstetric officer at the General Hospital, Birmingham, for the past ten years, has been unanimously elected honorary obstetric officer in place of Dr. Edward Malins, the President of the Obstetrical Society of London, who has resigned that post.

A CONVERSAZIONE will be given at the West London Hospital by the Post-graduate College on Wednesday, March 18th, at 8.30 P.M. All past residents and past and present post-graduates are invited to be present.

WE are asked to announce that the meeting of the Medical Society of London on March 23rd will be a "clinical evening" and that the papers on Diseases of Children set down for that date are unavoidably postponed.

THE existing Vaccination Act is to be renewed for one year, further legislation on the subject being deferred until a future session.

THE SUPPLY OF MIDWIVES.

A CONFERENCE convened by Mrs. Heywood Johnstone was held at the Grosvenor-crescent Club, Hyde Park Corner London, on March 3rd, under the chairmanship of Sir MICHAEL FOSTER, K.C.B., to discuss schemes for the supply of midwives to the rural and provincial poor in accordance with the Midwives Act of 1902.

Sir MICHAEL FOSTER said that those who supported that Bill were largely influenced by the consideration that at the present time the supply of trained midwives was not adequate for the wants of the poor. They must act promptly and efficiently, so that by the time the Midwives Bill became a compulsory measure there would be a sufficient number of trained midwives. The truly representative character of the meeting that they were holding was shown by the fact that they had present amongst them representatives from no less than 26 counties of England.

Mrs. HEYWOOD JOHNSTONE said that as a result of her inquiries into the provision of midwives and maternity nurses for the poor throughout England and Wales it appeared that if the untrained midwife was suppressed and no one was put in her place in many districts the condition of affairs would be much worse than it had been. The speaker then entered into the details of the statistics she had compiled and mentioned that in Leicester, for a population of 212,000 only two trained midwives were to be discovered In Cardiff, with a population of 65,000, there was a great need for properly trained women, and the result of the want of them had been in every way most disastrous. In country districts the want was more serious; in Dorset, for instance, a certain locality containing many scattered villages afforded for the attendance of all the cases one old woman, 88 years of age, and the villagers said that when she died they did not know what they would do. On inquiry from the local medical man a verification was obtained of these facts. Mrs. Johnstone's object was to discuss a plan which would not involve large outlay. She considered that every parish should start an association for the supply of trained midwives and maternity nurses. Labourers should subscribe a small sum and the big houses in the neighbourhood should subscribe a guinea; very small parishes should combine. A great point was that such associations should be self-supporting. To start these associations a very moderate outlay was sufficient—in fact, a few shillings from all who know the luxury of good nursing would be enough.

Dr. ROBERT BOXALL said that the object of the meeting was to provide for the wants of the rural districts; the needs of those in towns were generally well known and provided for, but the necessities of the country districts were not so fully appreciated. Unless the needs of their poorer sisters were put forward by those who knew the conditions there was a chance that their claims might be ignored. The question was how to secure competent and skilled assistance in rural districts. Dr. Boxall gave a description of the conditions prevailing in the Scilly Islands, in the rural districts of Sussex, and in Sutherlandshire. It was in the country that the necessity for the midwives was mostly felt, where locomotion was slow and time in complicated cases was an important matter. In those districts the midwife would be welcomed by the medical man. The fact was, however, that of the midwives who were trained the majority only intended to work as nurses under medical men. It was very rarely indeed that a midwife could be induced to take up work in country districts. A selection might be made from among the women in the country practising midwifery without training, and the problem which called for solution was how to provide these people with a proper training.

Mrs. RICKMAN said that the class of woman they wanted for midwives was unable to pay for the necessary training. She advised taking married women in the villages to be trained and then guaranteeing them a sufficient sum so that they could do the work. These women could not move away from the district and would therefore be available.

Mrs. SOWDON of Hackney detailed to the meeting how the poor people in her neighbourhood maintained a self-supporting association for the supply of midwives.

Nurse GREGORY, from the Winchester Lying-in Charity, explained the principle adopted at Winchester of sending out pupil nurses with the midwives, so that they should learn village work and make themselves of use in the cottages when the mother was confined.

Mr. HEYWOOD JOHNSTONE, M.P., said that the Midwives Act of 1902 would not be a blessing but the reverse if the large number of women who preferred to be attended by their own sex were deprived of the assistance of untrained women and no one else was supplied to take their place. He considered that Mrs. Rickman's suggestion to train suitable women in small country villages was very helpful. He thought they should particularly emphasise the point that if the training of midwives was made too protracted the supply would be limited. Limitation would also occur if the training unfitted the women for cottage life. He concluded by moving a motion to the effect that it was desirable to form an association to carry into operation suitable plans for the supply of midwives to the rural and provincial poor.

Lady CAMOYS seconded the motion, which was put to the meeting and declared carried with one dissentient.

Lord CAMOYS, in moving a vote of thanks to the chairman, urged that too high a standard of efficiency to begin with should not be demanded of the midwives.—The vote was seconded by Mrs. HEYWOOD JOHNSTONE and duly carried and acknowledged by the Sir MICHAEL FOSTER.

Before the meeting closed Mr. F. R. HUMPHREYS asked those present to urge on the attention of Poor-law guardians the advisability of removing the technical difficulties in the way of training being afforded to midwives at the Poor-law infirmaries.

THE IRISH DISPENSARY MEDICAL OFFICER.

THERE is, we think, no department of the profession in such a deplorable condition at present as the Poor-law medical service in Ireland; and, notwithstanding the praiseworthy efforts of various organisations—and notably the Irish Medical Association—the state of that service shows little sign of improvement. It is a common jibe to throw at Irishmen that they are never without a grievance, but even admitting that there may be, perhaps, at times some truth in such an accusation, we believe that no one will deny after reading our article that the dispensary medical officers of Ireland have just grounds of complaint.

Grievances of Irish Dispensary Medical Officers.

1. There is no promotion in the Irish Poor-law medical service. 2. The salary is totally inadequate. The average annual salary of a dispensary medical officer in Ireland varies from about £100 to £150. He has charge of a district from ten to 20 miles in area and he has often in a day to travel 40 miles, so that when he deducts from his salary the cost of his horse (and one is often not enough to work his district) and car and man-servant he has literally and practically no pay at all; and yet he is always on duty and must be prepared at any time of the day or night to operate for strangulated hernia, to deal with a placenta prævia, or to treat a complicated case of typhoid fever. 3. He has no holiday as of right. We admit that the Local Government Board authorised the boards of guardians to give their dispensary medical officers a month's vacation, but unfortunately it made it *permissive*, not *mandatory*, and there are so much trouble in fixing the salary of a locum-tenent, such an amount of red tape in nominating a substitute and, finally, so much difficulty in procuring one at the poor pay so requently offered, that in the end many a jaded dispensary medical officer is obliged to do without any holiday at all—an arrangement which, in the interests of the poor, is a very bad one. 4. There is no increase in salary, for neither length of service nor efficiency in the discharge of duty brings the slightest pecuniary reward. 5. There is no pension guaranteed as a right, as in civil service. The result is that it is too often the case that men rendered inefficient by age and hard work are obliged, in order to live and to keep out of the workhouse, to continue far too long at duty until, as in one notable example, after a service of 40 years, a dispensary medical officer died from exhaustion on the roadside worn out by advancing years and continuous strain of body and mind.

Causes of the Present Deplorable Position of Irish Dispensary Medical Officers.

1. There can be no doubt that the most potent cause of the great dissatisfaction existing at present amongst Irish

dispensary medical officers is the miserable remuneration which they receive for their services. Apart altogether from the increased expense of medical education, the cost of living is much higher now than it was many years ago; and, notwithstanding this fact, the salary of the dispensary medical officer in Ireland remains the same. Further, owing to the gradual depletion of the country districts of Ireland of the former wealthy landlord class, and the tendency at present for dwellers in the rural districts to migrate into the cities, the dispensary medical officer has not now the same chance as formerly to supplement his miserable Poor-law income by private practice. 2. The dual arrangement by which the dispensary medical officer is under the control of the Poor-law guardians and the Local Government Board does not work well. The disappearance of the *ex-officio* guardians (men of recognised social position and education) and the lowered status of the present elected guardians have made it almost impossible in many districts in Ireland for a medical man to work with any comfort or self-respect. He is in the hands of hard taskmasters who are ready on the slightest excuse to find fault with, or even to dismiss, him, who have little sympathy with the professional classes, and whose chief aim is to keep down the rates. The constant friction (no one looking at an Irish newspaper can fail any day to see examples) between these guardians and the Local Government Board arising from appeals—one day by the medical officers and the next day by the guardians—is daily increasing and is most vexatious.

Means to Redress the Grievances of Irish Dispensary Medical Officers.

If the Irish Poor-law medical service can ever be improved it can only be done in one of two ways: 1. Instead of the present method of appointment of dispensary medical officers (with all its political and sectarian intrigue) many people hold that it would be much better to select the dispensary medical officers by competitive examination and that in this way the present unsatisfactory method of canvassing for election would be done away with. 2. The only other plan for redressing the grievances of the Irish Poor-law medical officers is for the rising generation of the medical profession in Ireland to combine and to refuse to offer themselves as candidates for any vacancies that may arise until the authorities, in the interests alike of the poor as well as of the profession, decide to improve the conditions of the service. So long as an Irish Chief Secretary (Mr. Gerald Balfour) is able to say to a deputation from the Irish Medical Association—"How could they close their eyes to the fact that when one of these posts became vacant a large number of candidates presented themselves for it and the competition was very keen?"—it is useless to expect any reform. The members of the medical profession in Ireland must organise and combine and they have only to look for an example to the way the Army Medical Service was reformed when the War Office found that through the influence of the medical profession in the United Kingdom candidates would not apply for vacancies. If the medical profession in Ireland will organise and combine in this way the authorities will quickly realise that the sooner the grievances of the dispensary medical officers in Ireland are redressed the better will it be for the public as well as the profession.

ASYLUM REPORTS.

London County Asylum, Horton Manor, Epsom (Report for the year ended March 31st, 1902).—The average number of patients resident during the year was 724, comprising 110 males and 614 females. The admissions during the year amounted to 171—viz., seven males and 164 females. Of these 168 were first admissions. Dr. W. Ireland Donaldson, the medical superintendent, states in his report that 51 patients among the admissions were transfers from other asylums, and that of the remainder about 42 per cent. were deemed irrecoverable. The number of patients discharged as recovered during the year amounted to 29, or 4·0 per cent. of the average number resident. The deaths during the year amounted to 39, or 5·4 per cent. as calculated on the same basis. Of the deaths one was due to colitis, six to general paralysis of the insane, six to pulmonary tuberculosis, and the rest to other causes. The general health of the institution was good, and the epidemic of influenza which occurred in February and March, 1902, was of a mild form. Three female patients admitted pregnant were safely delivered. The children were removed from the asylum to their respective unions. The Commissioners in Lunacy state in their report that the behaviour and personal condition of the patients were satisfactory, that the wards and dormitories were in good condition, and that the medical case-books were well kept. The committee of management states in its report that it has been decided to erect an additional block, similar to the existing buildings but separate therefrom, to accommodate 60 male patients. The cost of this block and its equipment is estimated at £9000. The expenditure on repairs of the asylum amounted to £4500, while the sum of £351 was spent on additions, alterations, and improvements.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8008 births and 4789 deaths were registered during the week ending Feb. 28th. The annual rate of mortality in these towns, which had been 17·9, 17·1, and 16·7 per 1000 in the three preceding weeks, further declined last week to 16·6 per 1000. In London the death-rate was 16·3 per 1000, while it averaged 16·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·2 in Handsworth, 8·8 in Walthamstow, 9·3 in Hornsey, 9·3 in King's Norton, 10·4 in Reading, 10·9 in East Ham, 11·6 in Wallasey, and 11·7 in Leyton; the highest rates were 20·5 in Plymouth, 20·7 in Birkenhead and in Liverpool, 20·9 in Manchester and in Middlesbrough, 21·8 in Swansea, 23·0 in Salford, 23·2 in Bury, and 24·3 in Wigan. The 4789 deaths in these towns last week included 452 which were referred to the principal infectious diseases, against 512, 457, and 452 in the three preceding weeks; of these 452 deaths 108 resulted from whooping-cough, 104 from measles, 81 from diphtheria, 55 from diarrhœa, 52 from scarlet fever, 35 from "fever" (principally enteric), and 17 from small-pox. No death from any of these diseases was registered in Reading, Handsworth, or Huddersfield; while they caused the lowest death-rates in Brighton, Portsmouth, Leicester, Bolton, and Cardiff, and the highest rates in West Ham, Northampton, Hanley, Wigan, Bury, Manchester, and Oldham. The greatest proportional mortality from measles occurred in Wigan, Manchester, Middlesbrough, and Swansea; from scarlet fever in West Bromwich, Bootle, St. Helens, and Oldham; from diphtheria in Northampton, Hanley, Coventry, and Bury; from whooping-cough in Hornsey, Northampton, Grimsby, and Preston, and from diarrhœa in West Ham. The mortality from "fever" showed no marked excess in any of the large towns. Seven fatal cases of small-pox were registered in Liverpool, four in Manchester, and one each in Aston Manor, Birkenhead, Bootle, Oldham, Burnley, and Preston. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been six, six, and four in the three preceding weeks, had risen again to five at the end of last week; one new case were admitted during the week, against four, one, and seven in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, Feb. 28th, was 1851, against numbers declining from 2528 to 1893 on the nine preceding Saturdays; 197 new cases were admitted during last week, against 189, 246, and 205 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 315, 267, and 274 in the three preceding weeks, declined again last week to 271, and were 295 below the corrected average number. The causes of 61, or 1·3 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Bradford, Leeds, Sunderland, Cardiff, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, St. Helens, Blackburn, Barrow-in-Furness, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·7, 18·1, and 18·1 per 1000 in the three preceding weeks, further declined to 17·7 per 1000 during the week ending Feb. 28th, but was 1·1 per 1000 in

excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·3 in Perth and 10·5 in Leith to 18·8 in Glasgow and 22·0 in Aberdeen. The 581 deaths in these towns last week included 23 which were referred to whooping-cough, 13 to diarrhœa, nine to measles, six to diphtheria, five to scarlet fever, two to "fever," and one to small-pox. In all, 59 deaths resulted from these principal infectious diseases last week, against 80, 85, and 76 in the three preceding weeks. These 59 deaths were equal to an annual rate of 1·8 per 1000, which was 0·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 32 and 26 in the two preceding weeks, further declined last week to 23, of which 16 occurred in Glasgow, three in Edinburgh, and two in Dundee. The deaths from diarrhœa, which had been 16 and 18 in the two preceding weeks, declined again to 13 last week, and included six in Glasgow, three in Dundee, and two in Aberdeen. The fatal cases of measles, which had declined from 20 to 12 in the four preceding weeks, further decreased last week to nine, of which four were registered in Aberdeen and four in Leith. The deaths from diphtheria, which had been three and five in the two preceding weeks, further rose to six last week, and included two in Glasgow and two in Aberdeen. The fatal cases of scarlet fever, which had been eight and seven in the two preceding weeks, declined again last week to five, of which two occurred in Paisley. The two deaths from "fever" and the fatal case of small-pox were registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 134, 112, and 109 in the three preceding weeks, further declined last week to 92, and were 122 below the number in the corresponding period of last year. The causes of 20, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·4, 25·0, and 20·6 per 1000 in the three preceding weeks, rose again to 25·9 per 1000 during the week ending Feb. 28th. During the past four weeks the death-rate has averaged 24·5 per 1000, the rates during the same period being 17·1 in London and 15·9 in Edinburgh. The 188 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 38 over the number in the preceding week, and included 14 which were referred to the principal infectious diseases, against nine, 14, and 18 in the three preceding weeks; of these five resulted from whooping-cough, four from diarrhœa, two from scarlet fever, one from measles, one from diphtheria, and one from "fever." These 14 deaths were equal to an annual rate of 1·9 per 1000, the death-rates last week from the same diseases being 1·7 in London and 1·1 in Edinburgh. The fatal cases of whooping-cough, which had been three in each of the three preceding weeks, rose last week to five. The deaths from diarrhœa, which had been four and one in the two preceding weeks, rose again to four last week. The fatal cases of scarlet fever, which had been two, three, and four in the three preceding weeks, declined again last week to two. The 188 deaths in Dublin last week included 31 of children under one year of age and 47 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed an excess of 10 over the respective numbers recorded in the preceding week. Seven inquest cases and seven deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: A. Cropley to the *Pembroke*, to be lent to the *Mersey*; W. G. Axford to the *Duke of Wellington*, for Haslar Hospital, temporary. Surgeons: B. Ley to the *Spartiate*, for medical charge on voyage out, and to the *Algerine*, undated. Robert Robertson Fasson has been appointed medical officer at Keyham Dockyard, Devonport.

The undermentioned Staff Surgeons have been promoted to the rank of Fleet Surgeon in His Majesty's Fleet:—Timothy Joseph Crowley, Donald Templeton Hoskyn, Robert Howard Nicholson, and John Leslie Barrington.

ROYAL ARMY MEDICAL CORPS.

Major W. T. Mould, on arrival at Southampton, in relief of Captain E. W. Slayter, takes over the duties of Embarking Medical Officer. Colonel J. C. Harwood is appointed to the medical charge of the Station Hospital, Poona. Lieutenant-Colonel W. G. Birrel is appointed to the medical charge of the Station Hospital, Colaba, and Major J. R. Stuart to the medical charge of the Station Hospital, Aden. Captain A. L. Webb is posted to the Poona District and Captain J. Matthews to the Deesa District. Lieutenant-Colonel W. O. Wolseley is posted to Edinburgh Castle for duty. Major G. F. Moffet assumes medical charge of the troops, Station Hospital, &c., Maryhill, Glasgow. Major G. Scott assumes medical charge of the troops, Station Hospital, Fort George, vice Major D. Stiell, who is under orders for India. Major H. M. Sloggett has arrived at Dover for duty, and is posted to the Station Hospital, Dover Castle. Major A. P. H. Griffiths is transferred from the Deesa to the Aden District, and Lieutenant F. M. Parry from the Bombay to the Nagpur District.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Durham (Seaham): Surgeon-Major L. G. Dillon resigns his commission, with permission to retain his rank and to wear the uniform of the corps on retirement. Dated March 4th, 1903.

Royal Engineers (Volunteers): 2nd Cheshire (Railway): Surgeon-Captain J. R. Atkinson resigns his commission. Dated March 4th, 1903.

Rifle: 1st Volunteer Battalion the Queen's (Royal West Surrey Regiment); Surgeon-Lieutenant T. F. Devane to be Surgeon-Captain. Dated Feb. 17th, 1903. 1st Cadet Battalion the King's (Liverpool Regiment): Acting Surgeon W. Evans resigns his appointment. Dated March 4th, 1903. 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant William Edward Manderson Corbett resigns his commission and is appointed Captain. Dated March 4th, 1903.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF INCIPIENT AND UNCONFIRMED MENTAL DISORDER.

To the Editors of THE LANCET.

SIRS,—I trust that in view of the considerable interest I have taken in this matter you will grant me a portion of your valuable space. This subject was first raised in a discussion opened by me at the Carlisle meeting of the British Medical Association, when I proposed a motion (which was carried) recommending the council to support legislation in this direction. Subsequently, as chairman of a conjoint committee of the British Medical Association and Medico-Psychological Association, I had the honour of heading a deputation to the Lord Chancellor who thereafter adopted into his Lunacy Bill a clause drawn up by the conjoint committee. This clause provided for the treatment of such cases in private homes for six months without certification but with notification to the Commissioners in Lunacy. This clause was passed by the House of Lords in two successive years and the matter appeared to have been so far settled. Thus much of ancient history.

It was therefore with some dismay and a feeling of "save me from my friends" that I listened to the recent paper of Sir William Gowers on this subject in which he again brought the matter under debate and advocated the accomplishment of what was almost a *fait accompli*. Sir William Gowers, I am sure, was unacquainted with the above facts or I am certain that with his usual high-minded fairness and courtesy he would have mentioned the efforts of those who, like Dr. E. W. White, Dr. T. Outterson Wood, and myself and many others, had given no inconsiderable time and effort to obtain the above result.

At the Carlisle meeting I not only drew attention to the

great advantages of such temporary treatment and to the evils resulting from its abuse but also to the grievous losses entailed by certification in some cases of mental disorder of brief duration. This last argument I am assured weighed heavily with the Lord Chancellor but has been lost sight of in the present discussion.

Sir William Gowers dwelt so exclusively on the advantages of single care that he has provoked Dr. White and Dr. Wood to write the papers recently printed in THE LANCET, principally demonstrating the evils that arise from it under the existing system.

This discussion, in fact, emphasises what I have said elsewhere—viz., that this mode of treatment demands the highest skill and experience; that it may be the best or the worst means of treatment and may mean salvation or perdition to the patient; and consequently that it is an abomination to allow it to be undertaken by any person however unfitted under any conditions however unsuited.

My reason for writing to you arises from the fear that this revived discussion may suggest to the Lord Chancellor to defer the proposed clause until regulations have been framed to prevent possible abuses. In this way almost indefinite delay may occur and it is this delay that I should wish to prevent. I would suggest, therefore, in order to avoid this result that there should be an addition made to the clause, requiring the Commissioners in Lunacy to report to the Lord Chancellor from time to time on the working of the clause and providing for the issue by that legal authority of regulations which should be directed to the restriction of the treatment of unconfirmed mental disorder to persons who had in some way satisfied the Commissioners of their fitness for this important and responsible work.

The existing state of the law tends to throw such cases into the hands of those who have little to lose by a prosecution, while persons of character and standing are deterred from taking them. The passing of the proposed clause would at once reverse all this. The fact of notification to the Commissioners and possible inquiry by them would encourage persons who had real qualifications for the work and would deter those who were unfitted. In this way the task of the Commissioners would be greatly simplified and a short experience should enable the necessary regulations to be framed.

I am, Sirs, yours faithfully,

Queen Anne-street, W., Feb. 28th, 1903. H. RAYNER.

THE LONDON HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I have just visited the London Hospital and I am convinced that there is a real danger of its work being cramped in every direction unless the public will respond really generously to the earnest appeal lately issued by its chairman and favourably received by the whole press.

It would be little short of a disaster if the largest hospital in England, situated as it is amongst the poorest people, could not properly carry on its beneficent work. More than that, I feel strongly that such work as is done at this hospital ought never to stand still but should progress, not only for the benefit of the sick and needy who throng its gates, but for the benefit of the whole country.

The financial position of the hospital is sufficiently serious to justify me in taking the unusual step of giving a Mansion House dinner—which is fixed for May 4th—to make it more widely realised and to get for the hospital all the help I can.

With a necessary expenditure of between £80,000 and £90,000 a year the income from the hospital's estate and investments is but £22,000, and even this must be seriously diminished unless £170,000 can be raised this year to meet the cost of essential improvements. The public may well be asked, I think, to help liberally those who devote so much time to working for the institution.

Their Majesties the King and Queen are showing their interest in the London Hospital by having announced their intention after Easter to open the new out-patient department, which has cost £70,000. In this building are contained the new rooms for the cure of lupus by the Finsen light introduced into the hospital by the Queen herself.

It would, indeed, be a gratifying result if their Majesties could be told on that occasion that the public had shown their appreciation of this gracious act by largely helping the hospital. With that view I shall be very glad to receive before then the names of those who are willing to help. To commemorate this interesting visit the Lady Mayoress and I are proposing to endow a bed at a cost of £1000.

I much hope that I may ask my fellow citizens and the public at large to assist in putting this great hospital into a sounder financial position and I invite your aid in bringing the matter prominently to the attention of the benevolent community.

Contributions may be sent to me at the Mansion House.

I am, Sirs, your obedient servant,

MARCUS SAMUEL, Lord Mayor.

The Mansion House, E.C., Feb. 28th, 1903.

THE LARGE INTESTINE AS AN INTERMITTENT SYPHON.

To the Editors of THE LANCET.

SIRS,—I was glad to see in THE LANCET of Feb. 21st, p. 552, a letter from Dr. R. W. Leftwich on the above subject which from its great physiological interest and multiform clinical bearings deserves in a high degree the notice of the profession. In his original paper, published in the *Edinburgh Medical Journal* of December, 1902, the author adduced, as it seemed to many of us, several strong reasons both theoretical and experimental, for accepting the truth of his thesis that the action of the large intestine is syphonic, not peristaltic. Although he contended that the continuous tonic contraction of the longitudinal muscular bands which he believed to exist was not essential to the truth of his doctrine he emphasised its importance, while recognising that it was largely hypothetical. In his letter to THE LANCET he now quotes a statement by Dr. T. G. Brodie to the effect that there can be no question that the longitudinal bands of the colon are tonically contracted. It seems to me that if such be the case Dr. Leftwich has triumphantly proved his hypothesis and is to be credited with a striking and valuable addition to knowledge arrived at by a strictly scientific method. He has, I think, established the entirely original point that the large intestine, being, broadly speaking, a bent tube with a short ascending and a long descending limb, fairly rigid walls, and contents capable of flowing, must, of physical necessity, act as a syphon.

From a purely physiological point of view this new light thrown on the functioning of an important organ of the body is of remarkable interest. But, as Dr. Leftwich shows in his paper in the *Edinburgh Medical Journal*, this new explanation of the action of the large intestine has also a very practical and varied bearing on clinical medicine. Not only does the theory of syphonage interpret to us the meaning of many incidents connected with orderly and periodical defecation, but it also may help us in the scientific treatment of various disorders of intestinal action. Whether or no "appendicitis" be more frequent now than in the quite recent times when it was multi-titular, the suggestions of Dr. Leftwich as to its causes and treatment are not to be disregarded, and I am inclined to think that this new view of the working of the large intestine may have considerable influence in regulating or checking some forms of active treatment of intestinal and other disorders. Much good may come of the practitioner's daily opportunity of quiet reflection on the function of his own internal syphon.

Although Dr. Leftwich, in his letter to you, has only asked for help in the explanation of certain side issues in connexion with his theory, I have ventured to comment here on the new doctrine alone which he has so ably propounded, being of opinion that the importance and originality thereof have been hitherto but imperfectly recognised. His short paper of a few pages gives more to think about than some large treatises.

I am, Sirs, yours faithfully,

London, W., Feb. 26th, 1903. H. B. DONKIN.

THE IMPERIAL YEOMANRY HOSPITALS.

To the Editors of THE LANCET.

SIRS,—In your review of the record of "The Imperial Yeomanry Hospitals, South Africa," in THE LANCET of Feb. 14th, p. 445, an error has somehow crept into the reference, presumably, to the Imperial Yeomanry Hospital, Pretoria. This hospital was a *yeomanry* general hospital of some 600 beds sent out from England by the Imperial Yeomanry Hospital Committee and was situated about two

miles east of Pretoria. "No. 3 Model School" was part of an *army* general hospital in which some of the medical officers and men of the Yeomanry Field Hospital and Bearer Company assisted for a time and did most excellent work. It was situated in the town of Pretoria.

I shall feel obliged if you would insert this explanation in justice to my colleagues on the staff of the Transvaal Imperial Yeomanry Hospitals (Pretoria, Elandsfontein, and Johannesburg).

I am, Sirs, yours faithfully,

C. R. KILKELLY, Surgeon-Major, Grenadier Guards,
Late Principal Medical Officer Transvaal Imperial Yeomanry Hospitals.

Guards' Depôt, Caterham, Surrey, Feb. 19th, 1903.

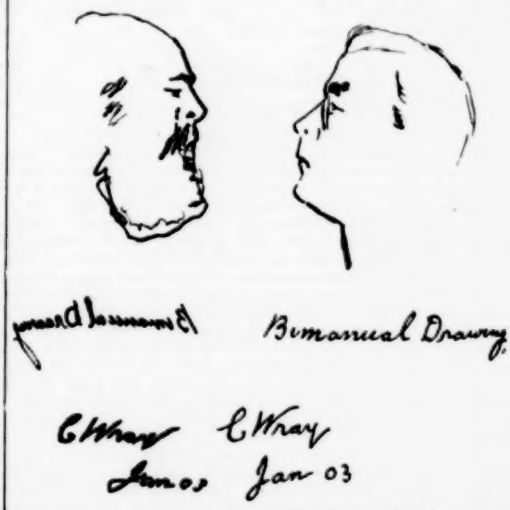
RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—Left-handedness surely must not be taken as an indication of anatomical superiority of the right hemisphere of the cerebrum, for such superiority should result not only in left-handedness but in functional superiority of all the parts supplied and dominated by that half. Obviously, then, as a preliminary step it is necessary to ascertain the existence or non-existence of right- or left-footedness. This your contributors do not seem to have done. If left-footedness never exists then the theory of superior anatomical development of the right hemisphere falls to the ground and we may with comparative safety assume right-handedness as the result of training or unconscious imitation.

I inclose drawings done with the right and left foot respectively, also several hand-drawings. None are touched up, every stroke being in ink and final, the foot-drawings being done by means of a rough paper-cone tied round the great toe. The drawing done by the left foot is, I think, equal to that done with the right. This is my second attempt at foot-drawing. My impression is that I can control the left foot better than the right.

As regards the hands, I sharpen my pencils with the left hand and can handle a Graefe a shade better with it also. In nothing else am I left-handed except in target shooting. A perusal of the hand-drawings shows no marked superiority in favour of either hand. I inclose also a specimen of bimanual drawing, the left hand drawing the left face whilst the right draws the right face. The bimanual signatures attached afford strong evidence that I am naturally left-handed, for the right-hand writing represents a lifetime of practice, the left-hand writing that of a few months only. A most important matter is the fact that the right arm swings with the left leg and the left arm with the right. Is this the explanation of our ability to write backwards mirror fashion with the left hand more easily than in the opposite direction as in ordinary writing, for in walking the hands move in opposite directions—i.e., there is a tendency to automatisation of movements in an opposite direction. If a person can be left-handed and left-footed and these conditions are dependent upon the superiority of the right hemisphere we ought to find a similar superiority of the left eye and ear. I do not know whether other left-handed people do the same or not but I have always noticed that, though my hearing in both ears is perfect, yet I analyse sounds best on turning my left ear towards the source of sound. As regards the eye, though my sight is $\frac{6}{6}$ easily and my refraction E, I always retinoscopise with my left eye and for accurate as opposed to quick shooting prefer firing from the left shoulder, indeed, I never fire from the right in target shooting. It is common knowledge that though the vision is perfect in each eye and the refract on normal nearly every person has a "master eye"; this is determined by holding a ring at arm's length with both eyes open and covering an object a few yards away. A left-eyed person on shutting his left eye will find the ring too far to his left. If, on the other hand, he shuts his right eye he finds he is "dead on" his object. This test shows that I am left-eyed. As regards experimental shooting my observations are founded on about 30 exceptionally intelligent subjects, mostly professional men, each of whom fired 20 shots from each shoulder, the right eye sighting with right-shoulder shooting and the left eye with left-shoulder shooting, the shots being fired from the right and left shoulder alternately. Left-eyed men, and especially if left-handed, very frequently shoot 20 per cent. better with the left eye from the left shoulder. One thing is beyond all doubt: there was never what left-handed men who had always shot from the right shoulder expected—a very bad record for the left shoulder. Another point to which reference may be made is the almost invariably superior coördination of the right hand with the right eye. To show this facing $\frac{1}{4}$ of Snellen's



type point promptly at the middle letter with the index finger of the right hand and shut the left eye. If right-handed the pointing is accurate. Now by pointing with the left index finger in the same way it will be found the pointing is accurate if the experimenter is left-handed, but inaccurate if he is right-handed.

These remarks have been made without any knowledge of the literature of the subject, but I trust that they may prove of interest.—I am, Sirs, yours faithfully,

CHAS. WRAY, F.R.C.S. Eng.,
Surgeon Western Ophthalmic Hospital; Ophthalmic Surgeon
Jan. 23rd, 1903. Croydon Hospital and Infirmary.

To the Editors of THE LANCET.

SIRS,—The hand-loom weaver mentioned by me in my communication in THE LANCET of Jan. 17th, p. 200, was not only ambidextrous but used both feet as well in working his machine. His hands drove the pirn or bobbin, carrying the thread backwards and forwards in a groove or shuttle by means of an upright rod to form the weft of the cloth. This might be called pure automatism, but, at the same time, he could with either hand by a certain movement of a cord throw out of gear or start the mechanism when a thread broke or anything else went wrong. The two hands were undoubtedly used for a common purpose but in a different direction, while either hand, left or right, could rectify any fault. In short, the left hand was as good and deft and necessary as the right, and each seemed as competent as the other. In shoeing a horse the blacksmith pares out the feet with his left as deftly as with his right hand. Trimming the nails with knife or scissors, the mariner at his wheel, and the juggler tossing his brass balls in the ring are instances in point, not to mention the accoucheur whose left hand both in turning and applying the forceps has often to take on the duties of the right. The surgeon cutting down upon and tying an artery must be ambidextrous if anything. His right hand must know what his left hand doeth; and the latter takes as important a position in the operation as the other.

Sir William Gowers, in THE LANCET of Dec. 20th, 1902, p. 1719, in an interesting note on this subject says: "Every child seems to be born either-handed; one-handedness comes with development, partly from inherited, partly from educational influences, &c." This places the whole scope and force of the discussion, as it were, in a nutshell. The child will, as a rule, use the right hand first and become right-handed and any tendency to left-handedness should be, and can be,

corrected. There are still many unappropriated facts, as Mr. Wallace would say, which might be brought forward in evidence to prove that right-handedness is due to a great extent to influences outside the body, though inheritance and bodily idiosyncrasy cannot be overlooked. Apologising for taking up so much space in your columns on a subject though of great interest of not much practical importance,

I am, Sirs, yours faithfully,

JAMES MORE, M.D. Edin.

Rothwell, Northamptonshire, Feb. 28th, 1903.

APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—Without reference to Professor Bourget's plan of treatment no discussion on this very important question can be considered complete. Bourget does not hesitate to use leeches if indicated or to purge his patients with castor oil if needful, but he places his chief reliance on warm antiseptic injections passed through a long tube so as to get beyond the sigmoid flexure and so wash out the hepatic flexure and even the cæcum itself. Bourget declares that when this is done pain and tension cease as if by magic, that the temperature falls and agony is at once replaced by repose, sleep, and speedy restoration to health. He points out that even if pus be formed it may be absorbed or discharged innocuously into the bowel or come to a head on the surface; also that removal of the appendix is no guarantee against subsequent attacks and that it is only when the parts have become gangrenous or are approaching that condition that operation is indicated or is really necessary. Bourget has treated a number of cases during the last ten years; he gives minute details of 26 cases and declares that he has had no operations, no accidents, and not a single death—"aucun cas de mort[1]." Such was my experience when a student in the wards of the Royal Infirmary of Edinburgh and subsequently in the rare opportunities I have since had of seeing cases of typhlitis, perityphlitis, or appendicitis. Certainly in former times such cases were rare; those afflicted did not die and, as a rule, were no worse off for what they had undergone. According to Chauvel's statistics of the French army the old-fashioned treatment compares favourably with the present system of almost constant excision, and I must say that I cannot bring myself to believe that any portion of the human body exists only for the production of disease or removal by operation or that things have so violently changed that a disease which was rare and easily dealt with and almost never fatal 20 years ago should without obvious cause become exceedingly common, very fatal, and require operation in 80 out of a 100 cases. Of course, where the peritoneum is bathed in pus and the parts are gangrenous or approaching that condition operation is imperative and we ought to be thankful indeed that we have among us so many profound clinicians and excellent surgeons who open the abdomen with so much skill and such splendid results.

I am, Sirs, yours faithfully,

Nottingham, Feb. 28th, 1903. C. BELL TAYLOR, M.D. Edin.

[1] Traitement Médical des Inflammations du Cæcum. Par le Docteur Bourget, Professor de Clinique Médicale à la Faculté de Médecine de Lausanne. Eggiman.

THE NATIONAL HEALTH AND ARMY RECRUITING STATISTICS.

To the Editors of THE LANCET.

SIRS,—In sequence to my letter in THE LANCET of Feb. 7th, p. 397, on the above topics I would ask you to allow me a little more space further to elucidate the bearings of the army recruiting statistics on the asserted wastage of military strength, expressed as a loss of three out of five between application at the recruiting office and the end of the second year of service, and the grounds which they offer for an impeachment of the national health. I base my remarks on the information given in the Army Medical Reports for the years 1897–1900, not taking these four years as specially applicable to the matter in hand but merely as being the latest and most convenient for the purpose, the period embraced being sufficient for a fair deduction—as indeed any similar period is within the last 30 years, the recruiting ground throughout remaining the same and the yearly divergencies in the major details being but fluctuations brought about by changes in the standard adopted in accord with the army needs of the time. From the figures and details to be adduced I think that the readers of THE LANCET will be in a position to form a conclusion on the question raised so far as the army data can assist thereto. And first as to the recruit supply. During these four years there was a total of 278,977 applicants for army employ and of these 188,061 were accepted and 90,916 were referred to civil life, the yearly average of inspected being 69,744 and the yearly ratio of rejected being 329·10 per 1000, though if the further rejections within three months of service he added this ratio is increased to 336·44. Such a large elimination of one out of every three points clearly either to a high standard of necessary qualifications or poorness of the human material available for army purposes under the conditions which exist. That the latter is the true reading there is no doubt, most probably, concurring with the anonymous writer of "The Problem of the Army" in the *Times* of Feb. 4th that the standard is "appallingly low." Of the divisions of the United Kingdom furnishing the applicants in each 1000 England and Wales give 762, Scotland 96, Ireland 129, and the colonies and stations abroad 13, though if we compare the numbers with the total male population of each section according to the last census we find that while each contributes a fair quotum to the sum total Ireland is somewhat in advance of the other two and Scotland gives the lowest rates; it requires, however, to be borne in mind that locality does not connote nationality and that the recruits from England and Scotland contain a fair proportion of men of Irish descent. Tested by the ratio of rejected to inspected the colonies and stations abroad give the best results, then follows Ireland, while Scotland and England and Wales closely approximate in the maximum ratio.

The classifications of the previous occupations of those seeking army employ are as under, the number for the year 1898 being taken as a fair index for the whole period except in the boy class which varies considerably in years:—

	Proportion per 1000 inspected.	Ratio of rejection per 1000.
Labourers, servants, husbandmen	657	351·41
Manufacturing artisans (clothmakers, weavers, lace makers)	139	386·05
Mechanics (favourable to physical development)	92	334·36
Shopmen and clerks	72	370·09
Professional occupations, students, &c.	9	320·40
Boys under 17 years of age	31	169·37

These figures indicate how limited as to social strata the army mass is and how vastly the sons of manual toil predominate; they show also the better physical status of the boys. As might be anticipated the indoor workers head the rejection ratio, while the too high ratio of the outdoor workers shows the existence among them of causes antagonistic to physical well-being.

Passing now from those inspected to those received into the service we have figures dealing with the age and physical qualities. The ages are arranged in years, mainly between 17 and 25, and the most numerous group in the whole period is between 18 and 19—about 4400 in every 10,000. That between 19 and 20 comes next with about half this number and these two groups constitute three-fifths of the whole mass; on the other hand, the 17 to 18 group varies considerably in some years and the group 24 to 25 is a very small one—about one-fortieth of the whole. It is apparent that youthfulness is a marked characteristic of those entering the military service and this potent factor must correspondingly influence the results. In respect to height the most numerous group is 5 feet 5 inches to 5 feet 6 inches, corresponding to 18 to 19 age group, and next 5 feet 6 inches to 5 feet 7 inches group; on the other hand, group 5 feet 8 inches to 5 feet 9 inches gives a considerable decline and group 5 feet 4 inches to 5 feet 5 inches marked fluctuations, in 1900 giving a ratio almost as high as the maximum group. In respect to weight, those between 120 and 130 pounds are most numerous; then follows those between 110 and 120 pounds and at a lower ratio those between 130 and 140 pounds. In respect to chest girth, from 33 to 34 inches constitute the largest group—about 3019 in each 10,000; 34 to 35 inches group gives about

2689 per 10,000; on the other hand, no less than 7563 were passed in 1899 and 5439 in 1897 at the low measurement of 32 to 33 inches. From these details we may judge how far the average recruit conforms to those physical qualities considered necessary for weight-carrying under chest constriction, for prolonged exertion, for long marching, and for sudden calls upon the vital powers, and what relation he bears to the average of his race, assuming that a height of 5 feet 7½ inches, a weight of 150 pounds, and a chest girth of 36 inches may be taken as an index for males between 18 and 19 years of age. Surely in the youthfulness and immaturity of body of the individuals subjected to army duties and requirements we have an explanation of no small part of the wastage in the early years of service quite outside that dependent on the deleterious agencies of the municipal conditions under which they have been born and brought up. From a consideration of the views of army surgeons at home and abroad the late Professor E. A. Parkes placed the lowest desirable recruitage at 20 or 21 years and from a consideration of the physiological growth of the body, and especially its osseous and muscular tissues, wrote, "These facts show how wrong it is to expect any great and long continued exercise of energy from men so young as 18 and 20, and what will be the inevitable consequences of taxing them beyond their strength." Two recent anonymous writers, one in the *Times* of Feb. 4th and the other in the *Fortnightly Review* of the same month, speak the one of "the miserable weeds that form the bulk of the recruits for the British Army," and the other (in India) of "the weedy undersized recruits who figure so prominently in our ranks," and the foregoing physical details corroborate these opinions. But as regards the subject started by Sir F. Maurice recently, what we want first to ascertain is the proportion of the breakdowns from youth and immaturity of body in the three out of five wastage (and we may add also that for desertion) in order satisfactorily to settle what remains as a groundwork from which to gauge the health status of our race. Be the health standard the highest attainable the age factor in the army problem will still remain.

And, secondly, in respect to the bearings of the army data on the assumed decadence of our community we have for guidance the causes of rejection in the recruiting-room and the invaliding and mortality of early military life. The latter information is not available but the former are as follows, taking the more important ones and giving them in the tabular form as set forth in the Army Medical Report of 1898, for example :—

—	Ratio per 1000 rejected.	Ratio within three months of service.
Under chest measurement	73·88	0·06
Defective vision	42·64	0·09
Under weight	34·82	0·02
Loss or decay of many teeth	26·34	0·22
Under height	21·79	0·03
Disease of heart	17·26	0·60
Defects of lower extremity (fracture, contraction, luxation	17·72	0·35
Disease of veins	15·74	0·21
Impaired constitution and debility ...	5·49	0·45

To these we may append the frequent official remark that the "largest number of rejections was caused by defective development (under height, weight, and chest measurements)" and to make the rejection ratio within three months of service more complete we must add that higher than any of those enumerated stand diseases of the nervous system and weakness of intellect, the former amounting in 1897 to 0·85 per 1000 and the latter to 1·27. Now, if we are right in assuming that defective vision and loss of teeth from decay are, in part at least, to be classed also under developmental deficiencies or defects we come to this conclusion that the main causes of rejection indicate conditions bearing on the limited sections of the community from which the army draws its numbers inimical to normal development and evolution of the body, and we have to go some distance down the list of rejections before we arrive at what are properly disease states, among which figure prominently lesions of the vascular system, these lesions figuring also in the invaliding lists of early military life. And herein seems to me to reside the true bearing of army data on the national health question. The figures show beyond doubt that operating on the sections which are led to take up military life less as a voluntary matter (for to such a procedure the term "voluntary" is as much a misnomer as when applied to the process of taking food and drink into our bodies) than under the stress of economic causes, there are agencies antagonistic to normal development, producing stunted frames incapable of meeting such physical demands as military service produces and in a less degree engendering actual disease states, but in themselves they do not warant the deduction that the recruit defects characterise the community generally. From a consideration of this subject from the national side and from the army side two duties of the community stand out clearly: the one of rectifying the defects of town existence by providing wholesome housing and conditions offering the chance of an attainment of a good physical and moral standard to our poorer brethren, the other of undoing the moral wrong which now rests upon us of subjecting immature lads to army conditions which by clear experience we know no small number of them to be incapable of meeting and which, while adding in no way to military efficiency or strength, do add to the physical deteriorations brought about by the prior unwholesome circumstances of town life.

I am, Sirs, yours faithfully,

FRANCIS H. WELCH,
Surgeon-Colonel (retired), Army Medical Service.

Brandram-road, Lee, S.E., Feb. 21st, 1903.

MALARIA AND MOSQUITOES.

To the Editors of THE LANCET.

SIRS,—In the correspondence that has been going on in the columns of the *Spectator* under the heading "English Winds" great stress has been laid by some of the writers on the fact that although ague has disappeared from certain parts of England, notably East Anglia, for a good many years, yet in the neighbouring parts of Suffolk anopheles are far from being extinct and that in the "Broad district" they are still to be found in large numbers. A statement like this so authoritatively made should be met by investigation at the hands of the supporters of the mosquito theory of malarial fevers to clear the doubt, as the place is much nearer than Sierra Leone.

I am, Sirs, yours faithfully,

P. J. DAMANIA,
Lieutenant-Colonel, late I.M.S.

Whitehall-court, S.W., Feb. 28th, 1903.

*** The anopheles cannot convey the malarial poison unless it is able to feed on the blood of men or animals already suffering from malaria.—ED. L.

ASEPTIC AND ANTISEPTIC SURGERY.

To the Editors of THE LANCET.

SIRS,—It is very helpful to young surgeons to hear from such an authority as Dr. James Laurie that all that is needed to carry out successfully the aseptic method *in private practice* is "a kettle of boiled and one of boiling water and plenty of freshly laundried towels." It would be interesting to me to know whether Dr. Laurie uses the kettle as a steriliser and, if so, it must of necessity be a fish-kettle in order to hold the necessary instruments, as the common tea-kettle is not very well suited to the purpose. Let us suppose the operation to be an amputation in a cottage far removed from enlightened aseptic surgeons either on "this side of the border" or on the other. Our steriliser is singing on the hob, there is no fish-kettle, and the saucepans are at present full of porridge (and would take some hours to render aseptic), and our saws and scalpels will not go in. Where do we look next for a suitable steriliser? If the surgeon has not brought his own fish-kettle and freshly laundried towels he is aseptically up a tree. Being an aseptic idealist he may have a steriliser with him; of course, he is then absolutely safe and may begin work. But—and it is a very big but—a steriliser means at best an extremely bulky addition to his surgical bag, which in his private practice may have to be carried many miles to the place of operation, and then, again, the ideal aseptic surgeon

will, of course, have his aseptic gauze in metal sterilisers—perhaps two or more.

How can anyone state that it is as sure of success, and therefore as suitable to the conditions of private practice, to attempt to carry out an operation aseptically as with the aid of antiseptics when the operator must cart an array of tin boxes and an unwieldy steriliser to his patient's house when he is more certain of getting a good result by taking a bottle of pure carbolic or a few soloids, let us say, in his waistcoat pocket? The surgeon in private practice may have to obtain the assistance of a nurse who has had little or no training; does Dr. Laurie mean to say that he would hope for a better result with no antiseptics than with them if he and his anæsthetist were the only medical men attending at the operation? I am speaking of the thousands of cases where the theatre is a small bedroom, the nurse a district nurse or even a trained surgical nurse, the patient most likely a working man with a strangulated hernia, and the only way of procuring instruments, anæsthetic, dressings, and all the various items required being to bring them yourself, knowing that it is better to take a little "trouble" over preparations even if you do happen to be a believer in antiseptics than to risk leaving everything to an assistant who apologises and remarks that he has forgotten the needles when you are ready to sew up the wound. It is simply delightful to hear Dr. Laurie twitting Mr. Watson Cheyne on his antiseptic theatres. One would think that men from all points of the civilised world flocked to Glasgow to see Surgery, with a capital S, stopping on their way to have a look round London and get lunch before going on in fevered haste to the home of aseptic surgery. I wonder why Lord Lister could not see that he was ruining his career by coming to "Mr. Watson Cheyne's side of the border."

By the way, I can call witnesses to prove my statements when I say that on one occasion I watched a beautiful ideal aseptic operation performed in what is perhaps the most aseptic theatre in the kingdom. The operator wore rubber boots and rubber gloves; but, alas, the nurse dragged the ribbon of sterile gauze along the beautiful tiled floor and the surgeon stuffed it into the wound and turned round to talk to the crowd of distinguished foreigners on the ideal method of surgical procedure. There were no antiseptics there: the tape had been sterile and it would remain in the wound with the dust off the floor undisturbed by any antiseptic which *might* counteract the effects of the carelessness displayed in a theatre given up to aseptic surgery. Would a patient have a better chance in a little country cottage with a "kettle of boiled and one of boiling water and plenty of freshly laundried towels"? I might say that I have operated without the above-mentioned kettles many times and, thanks to antiseptics, despite the absence of aseptic theatres, nurses, and other ideal surgical luxuries, have had good results. Perhaps Dr. Laurie may say I am no judge of good results because I acted as house surgeon to Mr. Rose and Mr. Carless who used, and still use, antiseptics and, I believe, still have cases that recover, and even do well, under their old-world treatment.

In conclusion, I should like to say that I am not bigoted. I have acted as house surgeon to aseptic surgeons as well as antiseptic surgeons and have found that with the usual amount of "trouble" one can get and can expect better results *with antiseptics* in private practice. I do not mean the practices of a few dozen men in our great cities but the practices of hundreds of thousands of men scattered over both sides of "the border." Asepsis may be the ideal method, but surely everyone who has tried both methods must find that ideals are difficult to obtain in the general run of private practices and therefore the practical, convenient, and far less expensive well-tried "antiseptic method" will hold its own except under such conditions as may be obtained in aseptic theatres, preferably, of course, not on "Mr. Watson Cheyne's side of the border."

I am, Sirs, yours faithfully,

IAIN JEFFERISS, M.R.C.S. Eng., L.R.C.P. Lond.

London, Feb. 28th, 1903.

"RELAPSES" IN SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—If Dr. A. B. Sloan's article in THE LANCET of Feb. 14th, p. 436, should require corroboration I give two cases which occurred in the Biggleswade Isolation Hospital.

A girl, aged three years, was admitted on Nov. 5th, 1902, with a scarlatinal rash and a temperature of 101° F. She peeled as usual. On Nov. 29th she came out in a universal scarlatinal rash and again desquamated freely.

A girl, aged 13¼ years, was admitted on Dec. 16th, 1902, with a scarlatinal rash and a temperature of 100·4° F. She desquamated in due course. On Jan. 24th, 1903, she came out freely in a scarlatinal rash and again peeled freely.

These two cases occurred out of 60 scarlatinal admissions during 1902–03.

I am, Sirs, yours faithfully,

Biggleswade, Feb. 17th, 1903. J. B. EMMERSON.

THE DISPOSAL OF THE SEWAGE OF LONDON AND THE CONTAMINATION OF SHELL-FISH.

To the Editors of THE LANCET.

SIRS,—It is interesting to one who, from the first, condemned the method of disposal of the sewage of London (which was adopted by the Metropolitan Board of Works in defiance of the recommendations of the Royal Commission on Metropolitan Sewage Discharge and has been continued since) to find that the Conservators of the rivers Thames and Medway and also a joint committee of the Port Sanitary and Sanitary Committee of the City Corporation have adopted a resolution, stated in the *Times* of Feb. 26th:—

That the present system of discharging sewage into the Thames estuary is dangerous to health and detrimental to an important food-supply, and that representations be made to the Local Government Board with a view to legislation being initiated to effectually deal with the matter.

In my presidential address to the Society of Medical Officers of Health in October, 1888, after stating the recommendations of the Royal Commission and pointing out that the Metropolitan Board of Works and its advisers were flouting them, I concluded as follows:—"I protest in the name of the Society of Medical Officers of Health of this country against such a state of things and against the further carrying out of a scheme which, while being enormously costly, will not only not settle the question, but will rather increase the difficulties of settling it effectually and will be pointed out by succeeding generations as a disgrace to the sanitary work of the nineteenth century." And in the discussion on papers by Mr. Worth and Mr. Santo Crimp on the Main Drainage of London and by Mr. Dibdin on the Purification of the Thames before the Institution of Civil Engineers in February, 1897, I stated that "I could not help thinking that if the money which had been spent in trying to purify the sewage of London by means of precipitation and filtration had been spent in taking it out further, as had been proposed, to the Maplin Sands or some other suitable place, and disposing of it by irrigation, that money would have been very much better spent, and I thought that would be resorted to in the end, however much money might be spent on experiments."

On that occasion Dr. Dupré, one of the former chemical advisers of the Metropolitan Board of Works, "expressed sympathy with Professor Corfield, who had predicted that the river would be more foul after the scheme had been in operation than before." This statement was not strictly correct, but that may pass, and it is now my turn to sympathise sincerely with Dr. Dupré on the condemnation of the scheme he defended by the most important sanitary authorities connected with the river Thames.

I am, Sirs, yours faithfully,

W. H. CORFIELD, M.A., M.D. Oxon., F.R.C.P. Lond.,
Consulting Sanitary Adviser to His Majesty's Office of Works.

Savile-row, W., March 2nd, 1903.

ROYAL ORTHOPÆDIC HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I inclose a copy of a letter which the secretary of the Royal Orthopædic Hospital was directed to address to me and which sets forth that at the recent annual meeting of the governors I was not re-elected. I was not present at this meeting, nor were any of the governors who were opposed to the sale of the site, several of them having resigned disapproving of that policy. I am not aware that any reason was given for my non-election, nor have I received any complaint about my work. It remains to be seen if this unprecedented action will be in the interest of the hospital or to the credit

of its management, but it is undoubtedly contrary to the laws of the hospital applying to the medical staff and in that sense illegal. Law 40 provides "that no medical officer shall be removeable except by the vote of a general or special court on the report of the committee of management"; but the committee made no report that I have heard of or seen, hence a serious step has been taken against me and I have suffered injury unheard and without sufficient or any cause being assigned. As this is a matter which affects the position of the medical and surgical staffs of all hospitals it is one which, I venture to think, will attract the attention of medical journals and through them of the profession at large. I am, Sirs, yours faithfully,

Grosvenor-street, W., March 2nd, 1903. H. A. REEVES.

[COPY OF LETTER FROM SECRETARY.]

ROYAL ORTHOPÆDIC HOSPITAL, Feb. 27th, 1903.

DEAR SIR,—I have to inform you that at the annual court of governors held yesterday you were not re-elected upon the committee of management, from which you some time ago gave notice of your intention to retire.

The governors did not re-elect you either as one of the honorary surgeons, but thinking you would prefer to finish the treatment of certain of your patients no immediate steps have been taken regarding the appointment of a successor.

I am, dear Sir, yours faithfully,

H. A. Reeves, Esqre. TATE S. MANSFORD.

THE VALUE OF CHLORETONE IN SEA-SICKNESS.

To the Editors of THE LANCET.

SIRS,—I can confirm the good opinion expressed by Dr. L. Wheeler in THE LANCET of Feb. 28th, p. 615, as to the value of chloretone in sea-sickness. Last June, when about to cross the North Sea, I was, by the courtesy of Messrs. Parke, Davis, and Co., furnished with a supply of the drug in five-grain capsules. I may say that I am a very bad sailor and that, rough or smooth, a sea voyage has for many years meant at least 48 hours of abject misery, the North Sea having especial terrors. On this occasion before leaving the Humber I took one capsule and on retiring to my berth I took two capsules more. During the night and all next day it blew hard, with a nasty cross sea, yet I was perfectly comfortable and did not miss a meal. Early in the morning of the first day at sea I met the stewardess; she was looking very ill, and she told me that all the lady passengers were sea-sick and that she herself was in the same plight and was hardly able to attend to her duties. I administered two capsules to her at once and put my stock at her disposal for the ladies. On inquiring the result the stewardess told me that she got speedy relief and could take food and go about her work comfortably and that every lady who had taken a dose said that she felt very much better. On the return journey, sailing from Christiania, we had a lovely run down the fiord and I went to bed while the ship lay by the quay side at Christiansand and quite forgot both sea-sickness and my remedy. The night was a very rough one and next morning no breakfast could be served in the saloon, the few who could eat being supplied in their cabins. I was very bad and could take neither food nor stimulant. Somehow I managed to dress—or rather put on my clothes—and make my way to a saloon where, lying on my back athwart ship, I slid backwards and forwards for an hour or two. Then I bethought me of chloretone and sending a steward for my bottle I took two capsules. For an hour afterwards I rested comfortably and at luncheon time took my place at table and ate a good meal. I am, Sirs, yours faithfully,

J. W. FAWCITT, L.R.C.P. & S. Edin.

Broughton-in-Furness, March 2nd, 1903.

THE "FRICTION" TONGUE.

To the Editors of THE LANCET.

SIRS,—The above term may very fitly be applied, I think, to an appearance of the tongue which is very commonly seen in people who have worn an upper teeth-plate for some time. In extreme cases the whole upper surface shows a smooth, dry, polished, and bright red surface, the raphe becoming shallow and indistinct and in some cases entirely obliterated.

Dr. W. A. Wills in writing of chronic glossitis in Allbutt's "System of Medicine" says that "if general it is often called glossy tongue and is usually the result of chronic dyspepsia or alcoholism." In the "friction" tongue—a true glossy tongue—we have neither of the two above causes at work. People who use an upper teeth-plate may be the subjects of dyspepsia or alcoholism and in them the friction effect may be seen in its most typical form. But neither chronic dyspepsia nor alcoholism, or both combined, produce such a well-marked condition of glossy tongue as that found from the use of an upper teeth-plate. There is no pain or tenderness or any inconvenience accompanying this appearance of the tongue; indeed, the possessors of such never make any complaint of it or know that there is anything unusual in the appearance of it. In itself, therefore, it is a matter of no importance and its only claim to be recorded is simply to have attached to it its proper causation and nothing more. It is thus that I have termed it a friction tongue—a mechanical result.

I am, Sirs, yours faithfully,

Boyson-road, S.E., March 2nd. WM. ECKLIN, M.B. Glasg.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

A Crematorium for Calcutta.—The Census of Calcutta.—The Plague Epidemic.—A Magnificent Donation to India.

THE movement which was started at the end of last year with the object of establishing a crematorium for Calcutta has rapidly progressed. The Cremation Society of Bengal is to be enrolled as a company and has succeeded in getting the corporation of the city to purchase two bighas of land (about two-thirds of an acre) adjoining the large Christian cemetery and to allot in the coming year's Budget Rs. 15,000 (£1000) for the erection of a crematorium. This, I understand, is everything that was asked for and it now merely remains for the society to obtain funds in order to build a chapel. In a year's time the crematorium should be built and in working order.

The Resolution of the Government on the census of Calcutta has just been issued. This city, with its suburbs, has a population of 949,144, and if Howrah, on the opposite side of the river (the position of which corresponds with that of Southwark in London), were included the combined aggregation of people numbers nearly 1,107,000. The municipality of Calcutta, however, controls an area having but 847,796 persons, as the suburbs have their own little governing bodies. The population has increased during the past decade 24 per cent.—chiefly by immigration, especially from Behar and the United Provinces. One curious feature exists in the large predominance of males—the proportion of the sexes being as 19 to 10. Of the total, 65 per cent. are Hindus, about 30 per cent. are Mahomedans, and about 4 per cent. are Christians, the small remainder being constituted of members of various nationalities. There are no less than 59 languages spoken in Calcutta, of which the chief two are Bengali and Hindustani, Uriya and English following a long distance after. It will hardly surprise anyone to learn that three-fourths of the population are illiterate.

The mortality from plague throughout India mounts up higher and higher. There were no less than 24,500 deaths from this disease alone during the past week. These figures compare with 23,632 deaths during the previous seven days and 12,192 during the corresponding week of last year. The details published are: Bombay Presidency, 11,708 deaths; the Punjab, 2882; Bengal Presidency, 2757; the United Provinces, 2510; the Madras Presidency, 793; the Central Provinces, 1173; the Mysore State, 829; Hyderabad State, 622; Berar, 595; Calcutta, 97; Bombay City, 498; and Karachi, 20. Poona is not mentioned, but the daily records show over 100 deaths a day from plague alone, which with a population of only about 100,000 indicates the frightful ravages which the disease is making once more in that city.

Mr. Henty Phipps has placed at the disposal of the Viceroy the munificent donation of £20,000 to be devoted by the Government of India to some object of practical benefit by scientific or industrial research which will promise enduring good to India. Mr. Phipps is a partner of Mr. Andrew Carnegie. He has also given £2000 to the Victoria Memorial Scholarship Fund which has for its chief object the training of native women as midwives and nurses. This fund has already reached something like six and a half lakhs of rupees and is presided over by Lady Curzon.

Feb. 5th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University of Birmingham.

THE annual meeting of the court of governors was held on Feb. 18th. In the absence of the Chancellor, the Right Hon. Joseph Chamberlain, M.P., the chair was taken by the Vice-Chancellor, Alderman Beale. The report and balance-sheet were taken as read, copies of the same having been distributed. The Vice-Chancellor then sketched the progress which had been made during the past year. Four new chairs had been established, two in connexion with subjects which had not been dealt with before—namely, history and metallurgy—and two with subjects in connexion with the faculty of commerce which had been dealt with in a more or less perfunctory manner—viz., mining and accounting. The council had resolved to establish a chair of education, but had not yet been able to arrange to fill it to their satisfaction. The difficulty of carrying out the work of the University in the present buildings was dwelt upon and it was stated that the arrangements for the new buildings at Bournbrook were progressing satisfactorily. Sir Oliver Lodge gave an address upon the requirements of teaching in relation to science and to the new school of modern languages and made some emphatic remarks upon the training of secondary teachers. He urged that training colleges should not be detached from places of learning in general. A memorial was presented by the students in favour of some rearrangement of the course so as to leave every Wednesday afternoon free. A similar memorial was presented last year and was referred to the Senate. The undergraduates are now willing to sacrifice Saturday mornings if they can succeed in obtaining Wednesday afternoons for athletics and recreation or for independent studies. The curriculum of the medical students entails many difficulties in the way of the adoption of this suggestion. The matter has been referred again to the Senate which, it is hoped, may concede the request.

The Eyesight of the Poor.

About a year ago the board of guardians appointed an ophthalmic surgeon to test periodically the eyesight of the inmates of the workhouse and of the Marston Green Homes in connexion with that institution. It has been found that the inmates have often made the excuse of going to the eye hospital in order to obtain permission to go out, though many of them are made more comfortable by the use of glasses. Among the children many cases of defective eyesight were due to malnutrition. The guardians in this respect are more progressive than the school board, which has not so far made a permanent appointment of an ophthalmic surgeon to be responsible for the testing of the eyesight of children in the elementary schools under its control.

The Hospitals.

The forty-second annual meeting of the supporters of the Children's Hospital was held on Feb. 23rd. The report showed that the number of patients during the year 1902 had been 16,761. There had been an increase in the number of operations performed to the extent of 37½ per cent. more than in the previous year. As usual an adverse balance was reported and an urgent appeal was made for more funds. It was stated that one method of raising more money was started last year in the form of a fund called the "Public and Private Schools' Children's Hospital Cot Fund" in order to increase the interest taken in the work of the hospital and to add to its facilities for dealing with the many children who are brought for treatment.—The annual meeting of the subscribers to the Birmingham and Midland Skin Hospital was held on Feb. 26th. The committee reported that there were 124 in-patients as compared with 157 in the previous year; the out-patients numbered 6503. An average stay of 54 days in the hospital was shown for the in-patients and was taken to be an indication of the serious nature of the cases under treatment. The medical report expressed satisfaction at the treatment of 103 patients suffering from lupus, cancer, and cognate diseases by means of the x rays and the Finsen light, a fact which has been commented on in the public press.—The Birmingham and Midland Counties Sanatorium displayed a favourable report at the annual meeting of its supporters on Feb. 27th. One suggestion of importance affecting the patients and the profession was adopted by the committee on the advice of its consulting physician—namely, the exclusion in future of consumptive patients. It was affirmed that a short stay by a consumptive patient at the sanatorium in the earlier stages of the disease did not benefit him individually, while there was a danger of other patients being infected. The decision of the committee is a matter for regret, but the committee has no doubt acted with the intention to afford the greatest good to the greatest number and has wisely supported its decision by the authority of an eminent physician.

March 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University College, Liverpool: The Opening of the Johnston Laboratory; the Unveiling of Dr. Richard Caton's Portrait; Complimentary Dinner.

THE Right Hon. Walter H. Long, M.P., the President of the Local Government Board, has accepted an invitation to open the Johnston Laboratory at University College on May 9th. The laboratory, which has been built and equipped by Mr. William Johnston, a Liverpool shipowner, includes the following departments: bio-chemistry; tropical medicine, directed by Major R. Ross, C.B., F.R.S., one of the Nobel prizemen of this year; and experimental medicine and comparative pathology, together with cancer research, to be conducted by Dr. A. S. F. Grünbaum. Mr. William Johnston has also endowed the professorship of bio-chemistry and three fellowships in various branches of medical research. Mr. Johnston is father-in-law of Dr. Rubert W. Boyce, F.R.S., the professor of pathology at University College.—On March 4th the ceremony of unveiling Dr. Richard Caton's portrait took place in the Arts Theatre. The portrait was painted by Mr. R. E. Morrison of Liverpool and was exhibited at the Liverpool autumn exhibition. It is a gift to the College from Dr. Caton's late colleagues on the occasion of his retirement from the medical faculty which took place in July, 1902. A replica of the portrait was presented at the same time to Dr. Caton. In the evening Sir William Mitchell Banks and Dr. Caton were entertained at dinner by their late colleagues and friends at the Adelphi Hotel.—The annual dinner of the University College Old Students' Association will be held at the Adelphi Hotel on Saturday, March 7th, when the chair will be taken by Professor Edward Carey, the president for the year. It is expected that a large gathering of former students will take advantage of the occasion to renew old friendships.

Liverpool Stanley Hospital: Improved Financial Condition.

At the annual meeting of the subscribers to the Stanley Hospital, held on Feb. 27th, the treasurer, in his annual report, made the satisfactory announcement that the special appeal to the generosity of the public on behalf of the heavy debit balance at the end of 1901, had met with a generous response, amounting to £5098. By means of the strictest economy the ordinary expenditure had been reduced by £400 as compared with the year 1901. There was an increase also in the subscriptions and donations of £380, but in spite of this, the ordinary expenditure had exceeded the income by £820, which, coupled with provision for extraordinary expenditure, left a debit balance at the end of the year 1902 of £1068 18*s.* 5*d.* Corporate help was again advocated in similar terms to those expressed at the annual meetings of kindred charities.

Hospital for Women, Shaw-street: Critical Condition of the Finances.

The support of the medical charities of Liverpool is fast becoming a burning question and if the hospitals are to be maintained in an efficient state the subscription lists will have to be considerably augmented. The reports of the treasurers of the various hospitals, the annual meetings of which have been held this year, are all gloomy in the extreme. A further wail came from the treasurer of the Hospital for Women, Shaw-street. At the annual meeting of that charity on Feb. 18th the accounts at the end of December, 1902, showed a deficiency of £1416 6*s.* 11*d.* The treasurer, in commenting on the diminishing income and increased expenditure, said that the committee would have seriously to consider the question of carrying on the hospital under present conditions. Public attention was being drawn in an

increased degree to suggestions made in various parts of the country that hospitals should be placed entirely under the care of the municipality, so that the burden of their support should fall equally upon all classes of the community able to help. The Lord Mayor expressed his private opinion that hospital patients who could afford to pay for their own food ought to do so and in regard to those who could not afford payment for that purpose it would be reasonable that the Poor-law authorities should pay for their food. He made that suggestion to the committee of the hospitals. I fear that his lordship's suggestion will meet with scant favour from the public, as if it were adopted the better class of hospital patients would be placed on the same footing as the inmates of a workhouse hospital.

Small-pox in Liverpool: Proposed Opening of Vaccination Stations: The Overcrowding of Electric Cars: Proposed Quarantine for Ships.

105 fresh cases of small-pox were reported to the health authorities during the week ending Feb. 28th, as against 54 during the preceding week. 77 patients are isolated for observation. There had been five deaths from the disease during the week. 310 patients were under treatment in the corporation infectious hospitals at the above date. Considerable discussion took place at the recent meeting of the Toxteth board of guardians as to the best means of coping with the alarming spread of the disease in the Toxteth Park township. A resolution was carried to the effect that application should be made to the Local Government Board to reopen the vaccination stations. In spite of the protests from many quarters, including that in THE LANCET of Jan. 10th, p. 135, the electric cars are still disgracefully overcrowded and thereby have become a positive danger to public health. At the ensuing meeting of the city council Councillor Byrne has given notice that he will propose the following motion:—

That the Parliamentary Committee be instructed to apply for powers to enable the port sanitary authority to deal with ships arriving in the Mersey infected with small-pox in the following manner: To detain the ship in the river for a period not exceeding 48 hours, during which time the ship and crew shall be thoroughly disinfected and the crew vaccinated before entering dock; also that a special steam launch be provided fitted with all necessary appliances for dealing with such cases.

Liverpool Infirmary for Children: Donations towards the Cost of a New Building.

£22,000 have been already promised in aid of the erection and furnishing of a new infirmary and the out-patient department (recently opened), the total cost of which is estimated at £60,000.

Liverpool Abattoirs Question.

An influential deputation representing the Royal Infirmary, University College, and the medical profession of the city relative to the renewal of the leases of the abattoirs in Trowbridge-street, waited on the estate committee of the City Council recently. Mr. John Lawrence, the vice-chairman of the finance committee of the city council, in introducing the deputation stated that it was understood that the estate committee was contemplating the renewal of some leases in connexion with the Liverpool abattoirs and referred to various reports and resolutions of the council disapproving of the neighbourhood of Trowbridge-street as a site for abattoirs. Sir William Banks quoted from reports by Dr. Trench and Dr. T. Stopford Taylor, former medical officers of health of Liverpool, and also by Dr. E. W. Hope, the present medical officer, tending to show that the existence of an abattoir, however well conducted, was injurious to the health of the neighbourhood, besides being offensive to the senses. The chairman of the committee (Mr. R. A. Hampson) thanked the members of the deputation for their attendance and stated that the committee and the council were in sympathy with their views and were concerned as to the best way of dealing with the question. The deputation could take it as settled that the corporation would never seek to continue the abattoirs in the centre of the city after the expiration of the leases. The committee had recently successfully negotiated with the Abattoir Company to arrange the termination of the various leases affecting the Abattoir Company's premises at the end of 1911. The chairman assured the deputation that they had no intention of renewing any of the Abattoir Company's leases, but that recently some lessees of the corporation had assigned a timber yard adjoining the Abattoir Company's premises to the company for lairage purposes. The corporation was unable to prevent this assignment being made, but had been able to arrange with the Abattoir Company that the assigned leases should terminate on the date fixed in respect of the remainder of the Abattoir Company's premises and that the premises should not be used for the purpose of slaughtering cattle. Mr. J. Kewley, the chairman of the committee of the Royal Infirmary, Mr. Robert Gladstone, Principal Dale of University College, Dr. William Carter, and others also addressed the committee in opposition to the renewal of the leases.

The New Liverpool University.

Mr. John Lawrence, the vice-chairman of the finance committee of the city council, announced at the last meeting of the committee that a letter had been received from the Clerk to the Privy Council stating the decision of the Privy Council to grant a charter to the new university conditionally.

Work of the Police Force Ambulance and other Police Services during 1902.

The annual report of the head constable of Liverpool states that there are now six fully equipped horse ambulances stationed as follows in the city: Royal Infirmary, Royal Southern Hospital, David Lewis Northern Hospital, Stanley Hospital, Central Fire Station (for night service), and Old Swan Police Station (for outlying districts). The number of turns-out during the year was 2759. 1729 constables and others hold certificates from the St. John Ambulance Association and 1288 constables hold medallions. The number of cases of first-aid rendered by the police was 699. Out of this number 498 were adjudged by medical men to be worthy of special commendation. 66 lunatics were found wandering in the city and taken charge of by the police. One sergeant received a silver medal and a vote of thanks from the Liverpool Shipwreck and Humane Society for saving life from poisonous fumes, whilst another constable was awarded the bronze medal by the same society for saving life from drowning.

March 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary.

THE inhabitants of Cardiff and of the surrounding districts appear at last to have realised their responsibilities and to have determined that the Cardiff Infirmary shall no longer be starved for want of funds. Since 1893 the yearly expenditure has always exceeded the income until in 1899 there was a deficiency on the year's working of over £2000 and an accumulated debt of £12,000. The mayor who came into office in 1900 inaugurated a fund for the purpose of liquidating this debt and his efforts were seconded by the proprietors of the *Western Mail*, who besides subscribing generously themselves initiated a shilling fund which was so well supported that within a few months the entire debt was cleared off. Although in each succeeding year the income has not been sufficient to meet the expenditure the financial report presented at the annual meeting of the governors held on Feb. 25th showed an adverse balance for last year of only £155, notwithstanding that the expenditure amounted to £10,690, the largest sum which has been spent in any one year since the establishment of the infirmary. The number of in-patients treated during the year was 1878. Ten years ago the yearly expenditure was £6010 and there were 1339 in-patients treated. The most gratifying portion of the report for 1902 is the statement that the workpeople's contributions have increased by £1221 and have reached the creditable sum of £3540. In the ordinary subscriptions there was an increase of only £76. This substantial support by the workmen may in great part be due to the admission to the board of management of some of their number and these representatives have no doubt satisfied themselves that the adverse criticism to which the institution was subjected a few years ago was in no way warranted. In a supplementary report issued by the managers there are set out in some detail several building additions and improvements which are considered to be necessary for the efficient working of the hospital and the separate cost of these works as ascertained by public tender is appended. They amount altogether to £5329 and include fire hydrants to cost £450, laundry improvements £200, terrazzo flooring £236, and intercommunicating telephones £106. It is

hoped by the managers that these requirements will be supplied by the generosity of one person or by a group of subscribers. The issue of a similar statement last year resulted in the presentation of a mortuary chapel by Dr. C. T. Vachell, of a padded room for delirious patients by Mrs. Mackintosh of Mackintosh, of new accident receiving wards by Mr. Thomas Webb, the donor of the operating theatre, and in the installation of electric light throughout the building by the Marquis of Bute.

Weston-super-Mare Hospital and Dispensary.

The Weston-super-Mare Hospital and Dispensary was established in 1857 and has accommodation for 31 patients. The annual report of the governors states that during 1902 there were treated as in-patients 260 persons and in addition to the 684 out-patients treated there were 722 accident and emergency cases attended to. The financial position of the institution is said to be satisfactory.

Small-pox.

Swansea has been free from small-pox for several weeks and there has not been any case of the disease notified in Merthyr since the first week in January. Three sailors have been removed to the Cardiff small-pox hospital from a ship trading between Liverpool and Cardiff and one of the patients has since died. During the past month there have been two cases at the Swansea waterworks now being constructed at Cray in Breconshire and five cases have occurred in the town of Brecon. In the Wigmore rural district there have been two cases, in Leominster four cases (one fatal), and in the city of Hereford one case. In all of the Breconshire and Herefordshire cases the source of the infection was traced to tramps. In the administrative county of Glamorgan during 1902 there were notified 172 cases of small-pox distributed over 17 of the 28 urban and rural districts in the county but excluding Cardiff and Swansea. More than one half—93 cases—were notified during the last quarter of the year and 71 of these were in the town of Merthyr.

University of Wales.

Mr. David Davies, whose grandfather was one of the founders of the town of Barry and an extensive colliery proprietor in Glamorganshire, has intimated a desire to defray the cost of erecting and fitting up new science laboratories in connexion with the Aberystwith College of the University of Wales. The estimated cost is said to be about £20,000 but no definite sum has been prescribed by Mr. Davies.

Anthrax.

The Gloucestershire county council has decided to cremate the carcasses of all animals dying from anthrax within the county and to discontinue the practice of burying them in lime.

Dorset County Hospital.

On Feb. 23rd, Sir Frederick Treves formally opened the new operating theatre of the Dorset County Hospital. There was a large and influential attendance at the ceremony. Replying to a vote of thanks, Sir Frederick Treves delivered a short address on the advance of operative surgery. The cost of the building has been defrayed by public subscriptions, including donations of £500 from Lord Eldon, £250 from Lord Ilchester, £100 from Lord Wimborne, and £50 from Lord Portman. Sir Frederick Treves presented the operating table.

Bristol Hospital Sunday Fund.

At a meeting of the council of the Bristol Hospital Sunday Fund held on Feb. 26th it was reported that up to that date £1464 had been received and it was decided at once to distribute £1200 amongst the medical charities. This includes £522 to the Bristol Royal Infirmary, £438 to the General Hospital, £162 to the Children's Hospital, and £78 to the Eye Hospital.

March 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Glasgow.

THE graduation ceremony will take place on Tuesday, 21st April. The senate has already published the names of those upon whom it intends to confer honorary degrees. Among those mentioned who are to receive the degree of doctor of laws (LL.D.) are Sir William Tennant Gairdner, K.C.B., emeritus professor of medicine in the University of Glasgow, and Dr. Thomas Oliver, professor of physiology in the University of Durham, author of works on medical subjects embodying, *inter alia*, the results of important investigations respecting the diseases of dangerous trades.

The Glasgow Hospitals.

The governing bodies of all the important hospitals in Glasgow are representing to the public the urgent necessity of raising money for extension or rebuilding. The foundations of the new dispensary at the Western Infirmary have already been laid and the directors are hopeful that before long they will be able to erect and to equip a new wing to the main building. The chairman of the directors of the Royal Infirmary at a dinner of the present and past residents of that institution held last week was very sanguine when he expressed his belief that within 18 months they would see the foundation-stone of a new hospital laid. The directors, too, of the Samaritan Hospital at their annual meeting held on Feb. 25th and presided over by the Lord Provost (Mr. John Ure Primrose) made a public appeal for assistance to build and to equip the proposed new wing towards which they had already received £7000, leaving a balance of £2000 still required. They had previously urged the necessity of providing an entirely new home for the nurses and they were glad to announce that a lady, who desired that her name should not be publicly known, had intimated her intention of making a gift of £8000 for the purpose of erecting such a home in memory of her late daughter. This year the Glasgow Hospital Sunday Fund amounts to £5023, being above what was collected last year by £225. This money, collected by the various churches throughout the city on a particular Sunday in the year, is distributed among the three general infirmaries—the Royal Infirmary, the Western Infirmary, and the Victoria Infirmary. The Lord Provost at the annual meeting of the Samaritan Hospital suggested that this hospital should also receive a share of the fund, but this would break through a principle that has guided the committee from the outset—namely, that the fund should be reserved for the three general infirmaries. The Samaritan Hospital is only one of many special hospitals in the city and if it were to partake of the benefits of this fund it would be difficult to ignore the claims of other institutions. If they were all satisfied the money would become allocated in small amounts to many institutions and none would derive any distinct benefit.

Glasgow Medical Volunteers.

In spite of most inclement weather there was a very large attendance at the memorial service held in the cathedral last Saturday afternoon when a tablet was unveiled to the members of the Glasgow volunteer companies of the Royal Army Medical Corps who died in South Africa during the recent war. The inscription reads: "This tablet is erected by the officers and men of the Royal Army Medical Corps (Volunteers), Glasgow Companies, in memory of their comrades, members of the active service section of the corps, who lost their lives during the South African campaign. Corporal G. G. Penman, died at Bloemfontein, 12th November, 1900; Corporal J. Howat, died at Bloemfontein, 1st December, 1900; Private W. Munro, drowned at Elandsfontein, 7th April, 1901." The Director-General of the Army Medical Service, Sir William Taylor, K.C.B., K.H.P., unveiled the tablet and delivered a brief address.

The annual dinner of the Royal Medical Society of Edinburgh was held on March 3rd, when Mr. Mayo Robson was the guest of the evening. Sir William Turner, Sir J. Halliday Croom, Sir J. Batty Tuke, M.P., Professor Chiene, and Dr. William Bruce were among the 80 medical men who attended under Dr. A. B. Ross's presidency to do honour to the guest of the evening.

March 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Establishment of a Branch of the National Association for the Prevention of Consumption in Cork.—Complimentary Dinner to Sir R. Douglas Powell and Sir John William Moore.

ON Feb. 28th a very important meeting was held in the Cork Court-house for the purpose of establishing a local branch of the Association for the Prevention of Consumption.

There was a very large attendance. The chair was occupied by the Earl of Bandon who, as Lord Lieutenant of the county, had convened the meeting. Sir R. Douglas Powell (London) and Sir John William Moore (Dublin) in the most generous manner came purposely to Cork to support the movement. Both gentlemen, in very powerful and impressive speeches, alluded to the terrible ravages caused by pulmonary tuberculosis, owing to which homes were made desolate and the community was robbed of some of its most useful members by a disease largely preventable. The Most Reverend Dr. Browne, Bishop of Cloyne, then proposed that a branch should be established, and in the course of his speech astonished the medical portion of the audience by showing that he had such a thorough grasp of the subject. The Right Reverend Dr. Meade, Bishop of Cork, proposed the formation of a general committee in a very sympathetic speech, showing his well-known interest in the whole community. Amongst the other speakers were Sir George Colthurst, Bart.; Mr. Maurice Healy, ex-M.P.; the Chairman of the Cork District Asylum; the Chairman of the Cork County Council, and Mr. J. Cremin. On the motion of the City High Sheriff a warm vote of thanks was passed to the Earl of Bandon for presiding. His lordship, in responding, referred to the pleasure which it gave him to be able to forward such a meritorious work. In the evening the medical profession of the city entertained Sir R. Douglas Powell and Sir John William Moore at dinner at the Imperial Hotel. 120 sat down to dinner, including a number of medical men from the city and county, the toasts being proposed by the chairman.

Cancer in Ireland.

A most important report—at least, from a statistical point of view—has just been published by the Registrar-General for Ireland on cancer in that country. During the year 1901 2893 deaths in Ireland were caused by cancer, an increase of 176 over the previous year. In Ireland in 1864 the rate of mortality from cancer was 2·7 per 10,000 living; it has steadily risen until in 1901 it reached 6·5. In 1891 the death-rate from cancer in Ireland was 4·6 per 10,000; in 1900 it had risen to 6·1 per 10,000. As to age, the period 75 years and upwards yields the highest proportion of deaths from cancer per 10,000—namely, 38·16. By far the greatest number of deaths from cancer in 1891 occurred amongst farmers and labourers. The recorded mortality varies considerably in the various counties of Ireland. It is lowest in the county of Kerry with 2·54 per 10,000, while the highest death-rate is 10·47 in county Armagh. Examining more closely county Armagh it appears that the districts in which there is the highest death-rate from cancer are without mountains. The two highest death-rates yielded by the mortality for cancer in county Armagh occur upon quite different geological formations. To enable him to accomplish his work satisfactorily the Registrar-General issued a memorandum to the local registrars throughout Ireland asking them to give particulars of any cases of death from cancer registered in their districts with the history of which they might be acquainted and which might tend to throw light on the origin of the disease and the means by which it is spread. He also invited the aid of medical practitioners in charge of several public hospitals and of several private medical friends. His request met with a most courteous response and from a close analysis of the replies received, the Registrar-General states that the following are the general deductions which can be drawn:—

1. That in many cases cancer occurs in the same family, grandparents, parents and other relatives of the person affected having suffered from that disease. 2. That frequently where a member of a family is afflicted with cancer other members of the family suffer from tuberculosis. 3. That in a number of instances where members of a family are afflicted with cancer other members of the family suffer from lunacy, idiocy, or epilepsy. 4. That in some cases the disease has occurred in persons who have been in direct contact with cancer patients. 5. That the disease has manifested itself in individuals who have used the tobacco pipes of persons suffering from cancer of the lip. 6. That in some instances more than one case of cancer has occurred amongst different families living in the same house or amongst successive occupants of the same house. 7. That in a few cases the disease has appeared in different houses in the same locality about the same time. 8. That cancer not infrequently appears after wounds and injuries. 9. That in some cases cancer has supervened where there has been irritation of the lip consequent on smoking clay pipes. 10. That cancer frequently shows itself where unfavourable conditions as to residence, food, &c., exist.

The main practical point to be deduced from these conclusions is that something seems to be gained for the opinion that cancer is directly contagious.

Death of Samuel Alexander, M.D. R.U.I.

The death is announced at his residence, Crumlin-road, Belfast, after a rather prolonged illness, on Feb. 25th, of Dr. Samuel Alexander. A native of Templepatrick, co. Antrim, Dr. Alexander studied at Queen's College, Belfast, and graduated M.D. of the Royal University in 1885. For a time he was in practice in England, but returning to Belfast he was elected dispensary medical officer of No. 5 district. A careful observer, an experienced accoucheur, and a kind friend, Dr. Alexander was greatly liked by his patients. His illness was of considerable duration, and although drainage of an emphysema seemed to have relieved him he had a serious relapse, with hæmatemesis, which proved fatal. He was buried on Feb. 27th at the old graveyard, Templepatrick, a large concourse of friends and patients attending his funeral.

Medical Men and Emergency Calls.

At an inquest held in Belfast on Feb. 25th as to the death of a woman suddenly from hæmorrhage from a varicose vein in the left leg it came out in evidence that the woman was dead when a medical man arrived and that another medical man who was first summoned by the husband of the deceased declined to attend as he did not go out at night. A juror was anxious to know why the medical man did not come, when the coroner pointed out that a medical man is not bound to come, but that his experience was that even if they themselves were on a sick bed they would get up and come out in an urgent case. He thought the man had not explained that his wife was in danger or else the medical man would have attended. He expressed wonder that the facilities provided in the way of ambulance were not thought of in a case where medical assistance was urgently needed.

March 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The New Public Health Act.

As I mentioned in my last letter the new Public Health Act came into force on Feb. 19th. The Act is divided into five sections. Of these, Section I. contains two clauses and deals with sanitary matters in general. Of the two clauses the first contains ten paragraphs dealing with general sanitary measures and the second 20 paragraphs dealing with sanitary measures applicable to buildings and the like. The points of the paragraphs dealing with sanitary matters in general are as follows. In every commune the mayor is charged with responsibility for the public health and with the duty of promulgating measures (after consultation with the municipal council and in the form of municipal by-laws) for preventing or for arresting outbreaks of infectious disease. He is specially charged with the looking after of measures for the disinfection, or even the destruction, of articles used by the sick and in general terms of any article which may serve as a vehicle for the transmission of infection. These measures of destruction or of disinfection are compulsory. In the same way mayors of communes are charged with drawing up regulations for the hygienic condition of houses and their outbuildings, of private roads whether thoroughfares or not, of furnished apartments, and, in fact, of any mass of buildings (agglomerations) or of real property of whatever nature. They are also specially charged with the care of regulations for the supply of drinking-water and with the disposal of refuse of any kind. As regards these duties they will be under the authority of the prefect who, with the consent of the Departmental Council, will approve the municipal by-laws or may even make them himself, *ex officio*, if the mayor will not carry out the law. In cases of urgency—that is to say, in face of an epidemic or other pressing danger to public health—the prefect can order measures of disinfection or destruction to be put into being at once, and this order may apply to one person, to many, or to the whole inhabitants of the commune. The list of diseases to which the sanitary regulations prescribed by the Public Health Act of February, 1902, are to be applied by means of an official schedule is still under discussion. I have previously spoken of debates upon this subject at the Academy of Medicine and also of another official regulation making it incumbent upon doctors of medicine, *officiers de santé*, and midwifes to

notify every case of infectious disease.[1] As regards sanitary measures in general Clause 1 of Section I. of the Act deals with those to be taken when an epidemic breaks out in any part of the Republic; it lays down rules for the action of the prefect in cases where for three consecutive years the death-rate shall have exceeded the mean death-rate for the whole of France; it provides him with a method for neutralising the carelessness (*moyen de passer outre à l'incurie*) of municipalities who have neglected to see that their communes have a proper supply of drinking-water or who have omitted to supply a thorough drainage system. It also lays down rules for the protection of the gathering grounds of a water-supply and establishes a zone of protection against pollution around them. Finally, the clause makes vaccination obligatory during the first year of life and revaccination during the eleventh and twenty-first years. Parents and guardians are personally responsible for these measures being carried out and this responsibility is a very real one, neglect of it leading to legal process with a penalty attached. Clause 2 of Section I. deals with sanitary measures applicable to houses and the like. Under this clause the erection of any building in a town of 20,000 inhabitants or more is forbidden unless a permit has been obtained from the mayor approving the plans from a hygienic point of view. When a property, whether a building or not, and whether adjoining the public highway or not, is dangerous to the health of the occupants or the neighbours, Clause 2 lays down regulations whereby the mayor, or failing him the prefect, can order either that necessary work shall be done or that the building shall be closed. By this clause, also, windows or doors made in the interests of sanitation are exempt for a period of five years from paying the window and door tax. Finally, the clause states the conditions upon which leases are to be cancelled or the compensation to be paid to the owner in case of the building being closed. Section II. of the Act is concerned with sanitary administration. Under it is created a bureau of public health in towns having more than 20,000 inhabitants and in all communes of less than 2000 inhabitants, if they are thermal stations. This public health bureau is a municipal body charged under the authority of the mayor with the application of the Public Health Act. At Paris it has just been put into force by an order of M. Selves. As regards Paris a distinction is made between the duties appertaining to the Prefect of the Seine and those of the Prefect of Police. The first mentioned of these officials deals with everything relating: (1) to the hygienic condition of dwelling-houses and their appurtenances, with the exception, however, of premises let as furnished apartments; (2) to the hygienic condition of private roads, whether thoroughfares or not; (3) to the collection and distribution of water-supplies; and (4) to disinfection, vaccination, and the removal of patients. In case of necessity he gives effect to requisitions made to him by the prefect of police. He appoints an unhealthy dwellings commission composed of 30 members, 15 of whom are nominated by the municipal council. The duties assigned to the prefect of police are as follows: (1) to take precautions for the prevention and arrest of epidemic diseases; (2) to receive notifications of these diseases; (3) to deal with contraventions of the statutes relating to vaccination and revaccination; (4) to undertake the sanitary inspection of premises let as furnished apartments and the protection of young infants; (5) to enforce sanitary regulations relating to domestic animals; (6) to enforce regulations relating to the practice of medicine and pharmacy; (7) to enforce the laws and enactments relating to the sale or exposure for sale of articles of food, either adulterated or putrid; (8) to exercise a certain supervision in connexion with the municipal laboratory; and (9) to enforce rules for the carrying on of dangerous or offensive occupations. He is assisted by the Conseil d'Hygiène et de Salubrité de la Seine the composition of which remains unaltered. The same section defines the duties of the departmental Conseils d'Hygiène and of the Comité Consultatif d'Hygiène de France. Section III. provides for the expenses rendered necessary by the new Act, while Section V. provides for certain temporary requirements. Section IV. is a penal section dealing with contraventions of the provisions of the law and the penalties under this section vary from a fine of 16 francs to one of 1000 francs. As I have already mentioned, the Prefect of the Seine has issued an order dealing with the duties imposed upon the Paris Bureaux d'Hygiène. This order concludes as follows. "The public bodies appointed under the direction of the municipal authorities for the protection of the public health take the name of Bureaux d'Hygiène de la Ville de Paris (Préfecture de la Seine) in conformity with Section XIX., Clause 2, of the Act of Feb. 19th, 1902."

[1] THE LANCET, Jan. 31st, 1903, p. 332.

The Question of Fœticide.

On Feb. 9th the Medico-Legal Society unanimously adopted the report of M. Maygrier on the question of fœticide. The conclusions of the report are as follows:—

1. The medical man incurs no responsibility except under the terms of the Common Law (Articles 1382 and 1383 of the Civil Code)—excluding, that is to say, cases in which he may be reasonably accused of imprudence or of negligence altogether outside the scientific aspect of the case.

2. The medical man should never operate against the expressed wish of a patient in full possession of her faculties. There may be cases, however, in which, owing to some unforeseen emergency, the medical man will be compelled by his sense of duty to operate when the patient has not given her consent.

3. In the case of an unconscious patient the same general rules apply in so far as regards persons having authority over her, cases of urgency and of unforeseen complications, which may be very numerous, being excepted.

4. In no case should the medical man, having proposed one operation, substitute another wished for either by the patient herself or by persons having legal authority over her if he considers such operation either dangerous or inopportune. The refusal to accept his services under conditions laid down by himself releases him from all responsibility whatever may be the consequences. Humanity alone gives him the right to interfere.

March 3rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New Army General Hospital.

THE Secretary of War is about to establish in the District of Columbia a hospital which shall serve as a base in time of war and shall be so situated and designed as to make immediate and temporary enlargement possible. On the outbreak of war such a hospital would immediately be needed because of the gathering together of troops in the vicinity of Washington. The hospital is to be part of the equipment of the army medical school, giving to the student-officers an opportunity to become familiar with the method of administration, hospital inspection, the use of the Roentgen rays and other diagnostic apparatus, and medical and surgical procedures especially employed in the military service. It is also to be equipped for the practical training of the hospital and army nursing corps. The staff is to be made up of army medical officers specially skilled in surgery and diseases of the eye, ear, throat, &c., and special facilities will be provided for the treatment of such cases. During the recent war such a hospital was established at Washington barracks, but it was found to be altogether too small and it cannot be enlarged because the ground is needed for other purposes. Since 1898, when this hospital was first used, 3000 hospital corps men have been trained and sent to military posts in the United States, Porto Rico, and the Philippines. The student-officers have benefited by the hospital training in its branches and the Government has been saved thousands of dollars in pensions because of the successful performance of hundreds of operations for hernia.

Spread of the Plague.

It is now evident that through the failure of the authorities of San Francisco to recognise the presence of the plague in that city and to take proper precautions against its spread many of the seaport towns of Mexico have been infected and the disease is spreading to the interior. During the first 15 days of January 107 deaths from plague occurred at Mazatlan, Mexico, and 106 houses have been burned. California and other adjoining states have sent money for relief and to furnish food. The Mexican Government is trying to get control of the disease and has held an extra session of Congress for that purpose. It was rumoured that the plague was present in Mexico, Guadalajara and Sonora, and in Ensenada, Lower California, and many towns in that part of Mexico are being gone over very rigidly. It was, however, very emphatically denied that there was any sign of the plague there. It is probable that the spread of the bubonic plague from San Francisco to Mexican cities will raise the question of the obligation of nations to prevent the spread of contagious diseases from one to another. The Mexican Government is said to be preparing a claim against the Government of the United States for damages to commerce by the transmission of the plague to its cities.

Coal Famine and Mortality.

The department of health in Chicago considers that the increased mortality for January was due directly to the shortage of coal. Unrevised returns of mortality for the month of January, 1903, show an increase of 10 per cent. (or 344) in the actual number of deaths from all causes and at all ages, and of 11·4 per cent. in proportion to population, as compared with January, 1902, when coal was abundant at one-half the price or even less than it now commands—when it can be obtained at all. These two facts are cited together because, in the judgment of the health department, the latter is the principal, if not the sole cause of the former. A large proportion of the excess of deaths is due to cold and exposure caused by the coal famine, which at the time of the previous report (Jan. 10th) had affected the health of fully 10 per cent., or nearly 200,000, of the population of the city. Had any other one cause so seriously menaced the public health and welfare a grave emergency would have been declared to exist, authorising the exercise of the plenary power of the municipality under the warrant and law of "overruling necessity."

Injured Seamen must be taken into Port for Surgical Treatment.

A United States circuit court of appeals has held in the case of the *Iroquois* that it was the duty of the master of that vessel to bear away to some port of distress as soon as possible after one of its seamen had without fault of his own or fault of the ship sustained a fracture of two ribs and both bones of his right leg below the knee. The vessel was at the time of the accident a few miles to the southward of Cape Horn. The master, whose only knowledge as to the treatment of fractures had been derived from his own experience some time previously, when he had received treatment from a surgeon for a fractured leg, set the seaman's leg as well as he could, bound it, and placed it upon a cushion in order to elevate it above the body, and instructed the steward to give the injured man gruel, mush, and other light food. The broken ribs healed, but the bones of the leg failed to unite, and after the vessel reached San Francisco the leg had to be amputated a little below the knee. The court held that it was no excuse that the master was ignorant or that he believed that the broken leg was healing properly, and that for that reason he thought it unnecessary to bear away from his course. Nor was he excused by the fact that the injured seaman at the time made no complaint of the treatment he had received and made no demand to be taken to a port of distress. The duty of the master to him was a positive one. He had been disabled while in the service of the ship and without any fault on his part. By the maritime law he was entitled to be healed at the expense of the ship. His injury was a serious one and the master must be presumed to have known that it required careful and scientific treatment.

Feb. 22nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Proposed Amendment of the Poisons Act, New South Wales.

A PRIVATE Bill has been introduced into the Legislative assembly of New South Wales to amend the Poisons Act, with the object of removing the present restrictions on the sale of proprietary medicines containing poisonous ingredients. A deputation from the Chamber of Manufacturers waited on the Ministry to oppose the Bill. It was stated that about 600 proprietary medicines were offered for sale in the State, of which the majority were innocuous, but some 14 contained active poisons, and if the Bill passed these could be sold without any restriction whatever.

Faith Healing.

The deputy coroner for Sydney (Dr. R. H. Todd) conducte an inquiry concerning the death of a married woman named Johnston who died in peculiar circumstances. The deceased and her husband belonged to the Christian Catholic Churchd or the "People of Zion," a sect the members of which, believe in healing by prayer and faith. She was attended in labour by a nurse and in the evening of the same day she became weak. The pastor of the church was sent for and he prayed over her. On the next day she was worse and the nurse said that a medical man must be sent for. Mrs. Johnston refused to see a medical man and a deacon of the church prayed over her all night. The nurse on her own responsibility took Dr. Thomas to see the case but the woman refused to see him. Dr. Thomas told the husband that the case was dangerous and that if anything happened to his wife he would get into trouble. The husband replied that he did not think so and he added: "We belong to a church which does not believe in doctors but believes God will take care of us." On the next day the husband brought Dr. Wood to see his wife, but when he got to the house the woman was dead. The husband said that he wanted the medical man to see his wife so as to avoid an inquest. Dr. Wood was of opinion that Mrs. Johnston had died from loss of blood and shock from want of skilled treatment. Dr. Sydney Jamieson made a post-mortem examination and found that the uterus was inverted and that death was due to hæmorrhage and shock; he thought that if medical assistance had been given the woman's life could probably have been saved. "Parson" McCullagh, the pastor of the church, stated that if a person of their faith had bleeding from a divided artery the proper course would be to pray and not to take measures to stop the bleeding. The jury returned a verdict to the effect that Johnston was responsible for the death of his wife in not insisting upon a medical man attending her when made aware by the nurse and Dr. Thomas of her serious condition and Johnston was committed for trial on a charge of manslaughter.

Infants Protection Bill.

Dr. Mackellar has introduced into the Legislative Council of New South Wales a Bill to make further and better provision for the protection, maintenance, and care of infants, to provide for the inspection, supervision, and control of places established or used for their reception and care, and to constitute children's courts. The Bill is intended to make provision for cases outside the scope of the State Children's Relief Act and deals chiefly with the question of illegitimacy. The measure provides for fixing the paternity of the child before birth and where the paternity is fixed the court may require the putative father to find sureties for the payment of the expenses incurrred by the mother at the birth. In cases where the natural guardians of the woman, say the father and mother, in such circumstances fail to give her the assistance which she has a right to expect she may apply to the State Children's Relief Board, which, after inquiry, may make a complaint to a justice, who will then summon the offender or offenders to show cause why they should not be ordered to support the woman and the child. The putative father will be required by the Bill to pay all the expenses of the mother during her confinement and also to provide for her for a period of six months afterwards. It is further provided that there shall be control over places for the reception of infants by way of inspection and the granting of licences at the discretion of the Minister. The Bill also contemplates the establishment of children's courts, apart from ordinary courts of petty sessions, in order that children may not be brought into contact with the associations of these establishments. In moving the second reading of the Bill Dr. Mackellar stated that the illegitimate birth-rate in New South Wales was very high and that it had nearly doubled in the last 20 years. At present the illegitimate birth-rate for the city of Sydney and suburbs was 10 per cent. of the whole birth-rate, while in the country districts it was something more than 5 per cent., the rate for the State altogether being about 7 per cent. This was a much larger percentage of illegitimate births than prevailed in any of the neighbouring States, while it was much larger than that of the United Kingdom, and he was sorry to say that the majority of the children were born of women who were immature, those who had not reached the age of 20 years.

A Disputed Insurance Policy: Suicide by Prussic Acid or Accidental Poisoning by Coal Gas?

An action was recently tried in Melbourne which presented some interesting medical features. The executors of the late J. E. Hoogkleinmer claimed £1000 from the New Zealand Accident Insurance Company, the amount of an accident policy issued to him. Hoogkleinmer was found dead in his room, apparently suffocated by an escape of coal gas. The insurance company declined to pay on the ground that he had really committed suicide by taking cyanide of potassium and that the escape of gas was purposeful. An analysis of the stomach of the deceased man showed that it contained nearly half a grain of cyanide of potassium. Dr. C. J. Martin, F.R.S., professor of physiology in the University of

Melbourne, gave expert evidence as to the results of his examinations of Melbourne coal gas. He had made five analyses of samples taken during a period of ten days. The mean result was that there was 0·065 grain of hydrocyanic acid in every gallon of gas. About a grain would be required to be inhaled to cause death and about the two-hundredth part of a grain would then be found in the stomach. If half a grain were found in the stomach it must have got there through the mouth. Dr. Martin had made post-mortem examinations on men in two cases and on animals in 168 cases in which death had been brought about by hydrocyanic acid. Evidence was also given that Hoogkleinmer had tried several times to insure his life but that he had failed as he had diabetes. It was found, too, that the gas-bracket had been tampered with. The jury found that death was due to suicide and gave a verdict for the insurance company.

The Asylum Difficulty: Resignation of Dr. S. Macbirnie.

Dr. Macbirnie, the medical officer at the Metropolitan Lunatic Asylum, Melbourne, who was charged with misconduct and was acquitted, has resigned. No steps have yet been taken to fill the position caused by the dismissal of Mr. W. Beattie Smith and the resignation of Dr. Macbirnie and the department will probably find some difficulty in the matter.

Obituary.

Great regret was felt at the death, on Dec. 26th, 1902, of Dr. E. Fairfax Ross at his residence, Macquarie-street, Sydney, at the early age of 45 years. Dr. Ross was educated in Goulburn, New South Wales, but went to London for his medical course, being a student at University College. He took the M.R.C.S. Eng. and L.R.C.P. Lond. in 1884 and later the M.D. of Brussels. He was house physician at University College Hospital to Dr. Wilson Fox. On his return to Sydney he soon took a leading position. He was senior physician to St. Vincent's Hospital and was also surgeon to the Lewisham Hospital for Women and Children. He had a large practice and his kindly sympathetic nature endeared him to his patients and friends. He has left a widow and three sons. —By the death of Dr. Emma Constance Stone-Jones Melbourne loses the pioneer woman physician in Australia. She was born in Hobart in 1854. She early evinced scientific tastes inherited from her father who was a biological student. She studied anatomy and then decided to pursue a medical course. There was at that time no opportunity of doing so in Australia—in fact, the idea was almost unheard of. She went to Philadelphia and entered at the Woman's Medical College. After a few years she proceeded to Toronto where she graduated as M.D. in 1888. In the following year she studied in London and took the L.S.A. In 1890 she returned to Melbourne and commenced to practise in Collins-street. In spite of old-fashioned prejudices she soon acquired a large practice and her success encouraged other young women to study medicine when the Melbourne University was thrown open to them. She was practically the founder of the Queen Victoria Hospital for Women. Her zeal and ability enabled her to take a high position in the profession and she was held in the greatest esteem by all its members. She married the Rev. D. Egryn Jones, M.D., and had one child. Her health had been failing for some years before her death from tuberculosis. It is, perhaps, significant that in Melbourne out of a not large number of women practitioners three already have died—Dr. Castilla, Dr. O'Hara, and Dr. Stone-Jones—and three have given up practice after marriage.—Dr. Richard James Quinnell, late brigade-surgeon in the Indian Medical Service, who died recently, was 68 years of age and had practised for some years in South Yarra, Victoria.—Dr. Charles W. Pardey died in Sydney where he was medical officer to the District Medical Institute. He graduated as M.B. at the University of Melbourne in 1883 and was for some time senior house surgeon at the Sydney Hospital.

Jan. 14th.

EXETER DISPENSARY.—The annual meeting of the subscribers to the Exeter Dispensary was held on Feb. 24th. The medical report stated that 5642 patients were treated during 1902 as compared with 5638 in 1901. The financial statement showed that there was a favourable balance of £300 and that the invested capital of the institution at present amounted to £17,301.

Obituary.

JOHN BRAKE, M.R.C.S. ENG., L.S.A.,

SURGEON-GENERAL INDIAN MEDICAL SERVICE (RETIRED).

Surgeon-General Brake, who died on Feb. 8th at "San Remo," Craneswater-park, Southsea, was a man of decided abilities which would, without much doubt, have enabled him to attain a good position in any branch of medicine. He was born on Dec. 6th, 1827, his father being Commander William Lenthal Brake, R.N. His early education was received at the City of London School under Dr. Gyles and Dr. Mortimer; he was an apt pupil and made such progress in the various classes that on eventually matriculating at the University of London he passed with honours in mathematics. In 1850 he entered as a student at St. Thomas's Hospital, where his proficiency in anatomy and chemistry obtained for him a scholarship tenable for three years; he also gained prizes for anatomy, physiology, forensic medicine, midwifery, and clinical reports, as well as six first certificates of honour, a dresserships, and a clinical clerkship. In 1853 he took the diplomas of M.R.C.S. Eng. and L.S.A. He therefore commenced professional life with every prospect of success and decided to take advantage of the opportunity which presented itself when the East India Company introduced the system of competitive examinations for admission to its medical service. The first of these examinations was held in England on Jan. 24th, 1854; Mr. Brake came out high on the list of successful candidates and received a commission as assistant surgeon. In selecting a presidency in which to serve he chose Bengal; he arrived in Calcutta on June 13th, 1855, and was at first appointed to H.M. 35th Regiment. He afterwards served successively with the company's 3rd European Regiment 8th and 81st Regiments, and the 4th Battalion Bengal Artillery. The year 1857 is memorable for the outbreak of the great mutiny of the sepoys in the company's army. Mr. Brake was then first garrison assistant surgeon at Lahore and was engaged in the first disarmament there at the commencement of the mutiny in May of that year. He was then posted to the medical charge of the 7th Punjab Native Infantry on its formation in August, 1857, and proceeded with a wing of the regiment in additional charge of Brigadier-General Nicholson's staff and No. 17 Field Battery to the camp before Delhi, also in August, 1857. He afterwards had as an additional charge the detail hospital for wounded at Meerut. On Dec. 6th he was recalled to Lahore and posted to the newly raised 2nd Sikh Cavalry. He accompanied the force by which General Sir John Lawrence, the Governor-General, was escorted to Delhi, where he had the additional charge of civil surgeon and medical charge of the Mogul king and his family when prisoners. He was also attached to the 8th and 9th Police Battalions, Police Rissallah, headquarters 4th Irregular Cavalry, and 23rd Punjab Infantry. In 1858, while in medical charge of the 2nd Sikh Cavalry, he accompanied Brigadier Colin Troup's column in Oudh and Rohilcund and in pursuit of Ferozeshah. He was with General Whitlock's field force from Feb. 1st to April 11th, 1859, was in medical charge of Captain Wright's column, and was present at the fight at Imlipani on March 29th. For his services he was now mentioned in despatches. He was with General F. Wheeler's force in Bhundelkund from Oct. 13th to the end of the campaign, was in medical charge of Captain Wright's column till Dec. 5th, 1859, and was mentioned in despatches (not published) by General Wheeler. He received the special thanks of the Government for attending to the wounded under a heavy fire. He was also awarded the Mutiny medal. In 1862 he was appointed to joint medical charge in Simla and in 1864 was appointed by the Governor-General as first superintendent of vaccination in the Central Provinces. In 1867 he was promoted to be surgeon-major. On Oct. 31st, 1867, he was appointed superintendent-general of vaccination in the Central Provinces and Hyderabad Assigned Districts. In February, 1870, he was appointed inspector-general of prisons in the Central Provinces. He had several times officiated as sanitary commissioner in the Central Provinces and in November, 1877, he definitely received this appointment. In December, 1878, he became civil surgeon and principal of the medical school at Nagpur, this being the most important medical charge in the

Central Provinces. In August, 1881, he was promoted to be brigade-surgeon. On June 1st, 1883, he left India on furlough, returning to Bombay on Dec. 30th, 1884. On April 17th, 1885, he was posted as deputy-surgeon-general. In the capacity of principal medical officer at Calcutta he inspected all troops proceeding thence to Burmah for the last campaign and superintended the despatch of hospital ships and stores. In September, 1886, he retired with the rank of surgeon-general after 31 years' service in India, and returning to England he lived at Brighton, Winchester, Ealing, and other places. Even in private life he retained his interest in hospital work and indulged it to some extent by acting on the committees of the Sussex County Hospital, the Hants County Hospital, and the Ealing Cottage Hospital. Surgeon-General Brake was married on August 19th, 1852, to Annie, daughter of Mr. John Miles Bull. He was left a widower on Dec. 23rd, 1897, and is survived by three daughters and an only son, Lieutenant-Colonel Herbert Brake, R.A., C.B., D.S.O., at present commandant at Trinidad.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Didiot, formerly Medical Inspector-General of the French army.—Dr. Lösch, formerly Professor of Medical Diagnosis in the University of Kieff.—Dr. Dante Cervesato, Clinical Professor of Children's Diseases in the University of Bologna.—Dr. Carlo Gallozzi, Rector of the University of Naples and one of the most eminent of Italian surgeons.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the Congregation held on Feb. 26th the following medical and surgical degrees were conferred:—

Doctor of Medicine.—A. E. Bodington, Gonville and Caius.
Bachelor of Medicine and Bachelor of Surgery.—A. W. Izard, Trinity; E. A. Ross, Trinity; H. Wacher, St. John's; and L. B. Aveling, Christ's.
Bachelor of Medicine.—N. F. Ticehurst, Clare.
Bachelor of Surgery.—D. Holroyde, Trinity.

Dr. Norman Moore, St. Catharine's, is to be one of the University delegates to the approaching International Historical Congress in Rome.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna:* Dr. Calderone has been recognised as *privat-docent* of Dermatology.—*Breslau:* Dr. Ludwig Krehl of Tübingen has been offered the chair of Clinical Medicine.—*Buenos Ayres:* Dr. Borda has been appointed Professor of Clinical Psychiatry, Dr. L. Valle as Professor of Operative Medicine, and Dr. Delfino and Dr. Uriarte Professors of Bacteriology.—*Florence:* Dr. Arturo Banchi has been recognised as *privat-docent* of Anatomy.—*Gratz:* Dr. Max Stolz has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Greifswald:* Dr. Paul Leopold Friedrich of Leipsic has been appointed to the chair of Clinical Surgery.—*Munich:* Dr. Anton Bumm, the Professor of Mental Diseases, being in bad health, Dr. Hans Gudden has been entrusted temporarily with the lectures on that subject.—*Rio de Janeiro:* Dr. E. de Nascimento Silva has been appointed to the chair of Forensic Medicine and Toxicology.—*St. Petersburg (Military Medical Academy):* Dr. W. Oppel has been recognised as *privat-docent* of Surgery and Dr. S. Lobanoff as *privat-docent* of Ophthalmology.—*Stockholm:* Dr. F. Westermark has been appointed to the chair of Midwifery and Gynæcology.—*Utrecht:* Dr. Laméris has been recognised as *privat-docent* of Surgical Diagnosis.—*Vienna:* Dr. Theodor Panzer has been recognised as *privat-docent* of Medical Chemistry.

THE NEW HOSPITAL FOR WOMEN.—On March 3rd the Bishop of London presided over a largely attended meeting of the supporters of the New Hospital for Women which was held in the board-room of that institution. In moving the adoption of the thirty-first annual report the Bishop referred to the interest which Her Majesty Queen Alexandra had taken in the institution and mentioned that a scheme had been prepared with the object of establishing a bed in the hospital in memory of the late Emperor and Empress Frederick. The report stated that the hospital now contained 52 beds and that the number of in-patients during the year amounted to 619. The out-patients numbered 7443. The committee of management calls attention to the serious state of the hospital finances. During each of the past three years the receipts have been considerably lower than the expenditure. In seconding the report Professor T. Clifford Allbutt said that excellent work was done by the institution which well deserved the support of the charitable public. The report was adopted.

THE LATE EDMUND CLEAVER PETTIFER, M.B. LOND., M.R.C.S. ENG.—Dr. E. C. Pettifer, who died recently in Calcutta, received his medical education at St. Bartholomew's Hospital, where he gained two scholarships and the Harvey prize. In 1884 he became qualified as M.R.C.S. Eng., and in 1885 he graduated as M.B. at the University of London. After holding the appointment of assistant house surgeon at Tewkesbury Hospital he proceeded to India where he did special sanitary work in connexion with plague at Fyzabad and Ajudhia. When plague broke out in Calcutta in 1897 he was employed by the Bengal Government as a plague officer with the appointment of assistant special health officer. He afterwards became district medical officer, District II., Calcutta, and also acted for the special health officer. He did much valuable work in tracing the relations existing between plague in the rat and in the human subject.

THE MEDICAL GUILD.—The main objects of the Medical Guild are the organisation of the profession in order to secure united action and the common good. The annual report for 1902 shows that 16 meetings of the council have been held during the year. In referring to club reform the council expresses a wish to have it made generally known "that the 2*s.* 6*d.* entrance fee in the Club Pledge has been waived" and that there are several cases reported in which the minimum tariff of 4*s.* per member has been obtained. The methods of the National Deposit Friendly Society are criticised. The guild has passed a resolution recommending that all practitioners who are willing to do so should vaccinate for the State, and that the cost should be defrayed by the State provided that the standard of efficiency is the same as that of the Local Government Board. This recommendation, however, does not find favour with public vaccinators in general. The guild is strongly opposed to advertisements of lectures to practitioners and senior students when these advertisements appear in the lay press and give the names of the lecturers. The *Medical Guild Quarterly* is the journal of the guild. There are 196 members. The president is Alderman F. H. Walmsley, J.P., and the secretary is Mr. David Owen, St. Brelades, Irlams-o'-th'-Height, Manchester.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of the subscribers to this fund was held on Feb. 24th, the president, Sir William H. Broadbent, Bart., K.C.V.O., being in the chair. The treasurer's financial statement and the report of the committee for the past year were presented and adopted. The latter stated that, owing to the falling off of subscriptions, the grant department had been a source of constant anxiety and that it had been necessary to spend a reserve of £200 which had been set aside from a legacy to meet any exceptional crisis. Subscriptions amounting to £1026 19*s.* 4*d.* and donations amounting to £468 16*s.* 2*d.* had been received and the sum of £1503 10*s.* had been distributed to 152 applicants in grants varying from £5 to £18 and payable in most cases by monthly instalments. In the annuity department the interest from investments had yielded an income of £2450 6*s.* 7*d.* and £2291 10*s.* had been received by the annuitants, of whom there are now 115. The working expenses of the fund had been only just over 5 per cent. and the accounts had, as usual, been subjected to a strict investigation by chartered accountants, the audit this year having been most kindly undertaken by the well-known firm of Messrs. Deloitte, Dever, Griffiths, and Co. Hearty votes of thanks were accorded to the president and other officers, who were unanimously re-elected, and the meeting concluded with a warm acknowledgment of the support always given to the charity by the medical press.

A MEDICAL FAMILY.—The death at Litcham, Norfolk, on Feb. 15th of Mr. Henry Raven (M.R.C.S. Eng and L.S.A., 1839, F.R.C.S. Eng., 1859) closes a remarkable chapter of local history. His grandfather (who died in September, 1807, aged 67 years), his father (who was baptised at Litcham in May, 1765, and who died in March, 1849), and his elder brother (who died in February, 1854) have successively practised at Litcham since the middle of the eighteenth century. Mr. Henry Raven was born on

April 13th, 1817, in the same house, then recently purchased by his father from a different family of the same surname, in which he spent the greater part of his long life. On his brother's death he gave up a London practice and returned to his native place, where he continued in the active exercise of his profession till about ten years ago greatly respected and beloved by all classes.

THE LATE GEORGE CHARLES HENRY WIGAN, M.D., C.M. ABERD., M.R.C.S. ENG., L.S.A.—The funeral of Dr. G. C. H. Wigan took place in the Portishead parish churchyard on Feb. 21st. Dr. Wigan was born in Tippoo Sahib's Palace at Seringapatam, which had been converted into a military depôt, his father, Colonel Wigan, being in command. He studied medicine at St. George's Hospital and became qualified as M.R.C.S. Eng. and L.S.A. in 1843 and 1841 respectively. He graduated as M.D. and C.M. at Aberdeen University in 1864. Dr. Wigan at first practised in London, but his health breaking down he went to Australia and was on the honorary staff of the Maitland Hospital, New South Wales. After remaining there for ten years he returned to England and commenced practice at Portishead. The deceased, who was in his eighty-third year, has left three sons and four daughters, all of the former being members of the medical profession.

THE HOUSING QUESTION IN ANGEL MEADOW, MANCHESTER.—It often happens that such names as Paradise-square, Angel Meadow, &c., indicate places by no means suggestive of Paradise, and certainly not occupied by angels of the better sort. Angel Meadow in Manchester, for instance, is in a ward, perhaps the poorest and most insanitary in the city, which has the angelic title of St. Michael's ward. It rarely happens that the dwellers in the slums complain of insanitary and unsavoury surroundings. Indeed, one of the difficulties often met with by the sanitary committee in dealing with unhealthy property has been the tenacity with which the occupants cling to their wretched tenements. But a large number of these people think that they have a grievance against the corporation, in that "while a great deal of insanitary property has been destroyed of late years nothing has been done to rehouse the dispossessed tenants," with the result that there is much overcrowding in the district. They contend that the new workmen's houses at Blackley are useless to them, because "the rents are much too high for the poorly paid labourers and the distance from the centre of the city is viewed with great disfavour by the people"—i.e., they are too far from the work of the city. Meetings have taken place in the ward; one was held in the St. Michael's Schools recently at which a resolution was passed condemning the corporation for destroying large numbers of houses and rendering their inhabitants homeless without providing other dwellings. The council was urged to buy the waste land in the district which, it is said, is sufficient to allow of 200 or 300 houses being built on it. It is no doubt a healthy sign for the people to wake up to what they suffer from unhealthy surroundings, but the housing difficulty is not to be easily solved. If the corporation is a buyer of land up goes its price. The high price of bricks and all building materials, the artificial raising of the price of labour by trade-unions, the prevalence of the "ca' canny" style of labour, leading to the work done being brought down to the smallest amount that can with any pretence of decency be allowed to pass, and that work often badly done, all tend to make it almost impossible for the corporation to build houses at a rent which the lowest class of the working people can pay. In the district in question a large proportion of the inhabitants are market labourers, whose wages vary from perhaps 12*s.* a week in winter to 30*s.* in the height of summer. They cannot, therefore, live far away from their work. But beside the difficulties arising from dear materials and dear labour, there is another in the fact that the land round about Angel Meadow is very costly from the increased demand for warehouses. The working classes themselves are, no doubt, in part at any rate to blame for this dilemma. One curious fact is that with regard to some of their plans for cottage building the corporation has been blamed for not coming up to the standard of its own building by-laws, in order, of course, to bring down the cost. If the rents, to pay a modest return, are too high for tenants to pay, are they to be lowered and the ratepayers to be mulcted to make up the loss? This dilemma does not at present show any very comfortable resting-place between its horns.

THE LATE DR. T. J. WOODHOUSE.—A medallion of the late Mr. T. J. Woodhouse, M.D. Lond., F.R.C.S. Eng., of Putney, who was for 36 years visiting medical officer of the Royal Hospital for Incurables, Putney Heath, was recently unveiled in the assembly room of that institution. The medallion, which is of alabaster, measures 2 feet 9 inches by 2 feet 3 inches. It is mounted in walnut and is a splendid specimen of the work of Mr. Hemms of Exeter, the well-known ecclesiastical sculptor. The memorial is the gift of Mrs. Woodhouse, the widow, by whom the unveiling ceremony was performed in the presence of a numerous gathering. Touching tributes to the memory of Dr. Woodhouse were paid by Dr. Small, who as the oldest member of the board of management presided at the ceremony.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Experiments on Living Animals.

THERE is a Bill before the House of Commons called the Cruelty to Animals Bill and in connexion with the motion for its second reading Sir GEORGE BARTLEY has given notice of an amendment in the following terms:—"That this House, while desirous of preventing suffering to animals, even in experiments for saving or prolonging life or alleviating suffering, as already provided for in the Cruelty to Animals Act, 1876, is anxious not to put increasing difficulties or impediments in the way of those scientific persons who are licensed under that Act, and who are devoting their talent and their time to the discovery of knowledge for the relief of suffering and the prevention and cure of disease in both men and animals, but recognises that inquiry might be usefully made into preventable and unnecessary suffering that may be inflicted as a consequence of sport, especially when birds largely brought up as domestic animals are driven in great numbers to be slaughtered, some being inevitably maimed and left slowly to die, this suffering serving no scientific object for the relief of pain or the cure of disease, and not being necessary as a means of killing food, but being inflicted as a necessary consequence of the amusement and enjoyment of those who cause it."

HOUSE OF COMMONS.

WEDNESDAY, FEB. 25TH.

Royal Army Medical Corps Militia.

Captain JESSEL asked the Secretary of State for War whether the Royal Army Medical Corps Militia was under orders for immediate disembodiment; and, if so, whether employment would preferentially be given to officers of the Militia in cases where officers of the Royal Army Medical Corps were not available.—Mr. BRODRICK replied: Five companies of the Royal Army Medical Corps Militia will be disembodied on Feb. 28th and the remaining four on March 31st. Preference will be given to officers of the Royal Army Medical Corps Militia who apply and are recommended for employment in cases where officers of the Royal Army Medical Corps are not available.

THURSDAY, FEB. 26TH.

Lunacy in Ireland.

Mr. CLANCY asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the increase in lunatic asylum charges in Ireland in recent years, he would consider the expediency of appointing a select committee to inquire into the cause or causes of the growth of local expenditure on lunatic asylums in that country and to consider whether any means could be found of limiting or reducing the burden on Irish ratepayers which was involved.—Mr. WYNDHAM replied: The statistics of insanity do most unfortunately show an increase in the numbers of the registered insane. This increase is not confined to Ireland. There has necessarily been a corresponding expansion in the contributions from local rates and from Parliamentary grants for the provision of accommodation for the insane and for their maintenance. The proposal in the question has already been dealt with in the reports of the Royal Commission on Local Taxation and I see no reason for further investigation.

The Form of Medical Certificates.

Mr. WEIR asked the Lord Advocate whether the Secretary for Scotland was aware that some school boards in the Highland crofting counties insist on prescribing the precise form in which a medical officer shall make out his certificate, notwithstanding the fact that no such powers are conferred on school boards by Act of Parliament; and, seeing that two crofters in the Western Highlands were recently prosecuted and fined for not sending their children to school, the medical certificates with which they had provided themselves not being accepted by the chairman of the school board on the ground that the medical officer did not subscribe the words "on soul and conscience" after his signature, would he consider the expediency of issuing a circular to school managers on the subject.—The SOLICITOR-GENERAL for SCOTLAND, on behalf of the Lord Advocate, replied: The honourable Member has already been in communication with the department on this subject. The rejection of the certificate was by the sheriff and the honourable Member has been informed that it does not fall within the province of the department to review the decision of a court of law. The suggestion contained in the latter part of the honourable

Member's question as to the reason for the said rejection is not, according to information given to the department, accurate. It is not proposed to issue any circular on the subject.—Mr. WEIR: Are the words "on soul and conscience" necessary?—The SOLICITOR-GENERAL for SCOTLAND: So far as my knowledge goes it is usual for medical men when granting certificates to use these words if the certificates are to be employed in legal proceedings.

Cancer in India.

Mr. WEIR asked the Secretary of State for India whether he was now in a position to give statistics in regard to the prevalence of cancer in India.—Lord GEORGE HAMILTON replied: I have ascertained from the Viceroy that in the existing condition of death registration in India he is unable to furnish information which would justify any conclusions as to the prevalence or distribution of cancer among the general population. The Government of India is considering the advisability of requiring cases of cancer to be recorded separately in future in the dispensary and hospital returns.

FRIDAY, FEB. 27TH.

The Prevalence of Small-pox.

Sir MICHAEL FOSTER asked the President of the Local Government Board whether he could state the number of districts in England and Wales in which small-pox was now prevalent and the number of cases; and whether in any district the number of cases had been so great as to lead to special measures on the part of the local authority.—Mr. LONG replied: Since the beginning of the year 2397 cases of small-pox have been reported to the Local Government Board as having occurred in 212 urban and 59 rural districts. The outbreak is practically confined to England and Wales north of Birmingham, but it is chiefly in towns of Lancashire, Yorkshire, and the North Midlands that the disease is prevalent. 17 of the larger towns in those districts have had a considerable number of cases. I am glad to say that the sanitary authorities of the places concerned have been very active in taking measures with a view to stamp out the disease. Many of the places affected have been visited by a medical inspector of my department and in most of the other cases I have communicated with the sanitary authority on the subject. I shall continue to watch the course of events and to urge on the local authorities the adoption of any measures which may appear to the medical advisers of the department to be desirable.

TUESDAY, MARCH 3RD.

Mental Derangement.

Dr. FARQUHARSON asked the Attorney General whether the Government would consider proposals to legalise in England a system similar to that which was in operation in Scotland for the private care of persons showing symptoms of incipient mental derangement who could not be certified as insane.—Sir ROBERT FINLAY replied: The Government has already assented to the principle of such legislation and a clause dealing with the subject was contained in the Lunacy Bill of 1900. That Bill was introduced by the Lord Chancellor into the House of Lords at the beginning of the session and was passed; it came down to the House of Commons on March 8th, 1900, but had to be withdrawn on July 16th.

WEDNESDAY, MARCH 4TH.

Small-pox in Staffordshire.

Mr. COGHILL asked the President of the Local Government Board if he could state the number of cases of small-pox that had occurred in the Staffordshire potteries during the present outbreak; what hospital accommodation had been provided for them; and if there had been any overcrowding of small-pox patients.—Mr. LONG replied: According to the information in my possession there were during the first two months of this year 59 cases of small-pox in the district referred to among a population of 262,500. The local authority for providing small-pox hospital accommodation is the North Staffordshire Joint Hospital Board. The Joint Board has only been recently constituted but it has made temporary arrangements for accommodating small-pox cases and is treating the patients in some temporary iron pavilions. My attention has been called to statements in the local press alleging overcrowding in the hospital and I have directed one of the medical inspectors of the department to visit the district and to report on the subject.

Renewal of the Vaccination Act.

Mr. COGHILL asked the First Lord of the Treasury if he would say what course the Government proposed to take on the expiration of the present Vaccination Act and whether legislation would be proposed this session to make revaccination generally compulsory.—Mr. BALFOUR replied: My right hon. friend the President of the Local Government Board proposes to renew the existing Act this year and to defer any further legislation on the subject until a future session.—Mr. COGHILL: Will it only be renewed for one year?—Mr. BALFOUR: Without absolutely pledging myself, that is perhaps the most convenient course.—Mr. GALLOWAY: May I ask whether the Act will be included in the Expiring Laws Continuance Bill?—Mr. BALFOUR: That is a question I would not like to pronounce upon, but it is a small matter.—Mr. COGHILL: Is the right hon. gentleman aware that serious outbreaks of small-pox are taking place in large towns like Manchester and Liverpool? May I ask that this should be considered?—Mr. BALFOUR: I was not aware of that. Perhaps the hon. gentleman will put down a question.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, 156, Charing Cross-road, W.C.

The Literary Year-book and Bookman's Directory, 1903. Edited by Henry Gilbert. Price 5s. net.

APPLETON, D. AND CO., 25, Bedford-street, Covent Garden, W.C.

A Treatise on Diseases of the Anus, Rectum, and Pelvic Colon. By James P. Tuttle, A.M., M.D., Professor of Rectal Surgery in the New York Polyclinic Medical School and Hospital. Price 25s. net.

BAILLIÈRE, J. B., et Fils, 19, Rue Hautefeuille, Paris.

Le Cytodiagnostic. Les Méthodes d'Examen des Sérosités Pathologiques et du Liquide Céphalo-Rachidien. Par Marcel Labbé, Médecin des Hôpitaux de Paris, Chef de Laboratoire à la Faculté de Médecine de Paris. Price 1fr. 50.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

A Manual of Toxicology. By Albert H. Brundage, A.M., M.D., Phar.D., Professor of Toxicology, Physiology, and Hygiene in the Brooklyn College of Pharmacy. Second edition, revised and enlarged. Price 6s. net.

Cancer: its Causation and its Curability without Operation. By Robert Bell, M.D. Glasg., F.F.P.S., &c., Consulting Physician to the Glasgow Hospital for Women. Price 5s. net.

CHURCHILL J. & A., 7, Great Marlborough-street, London.

A Manual of Family Medicine and Hygiene for India. By Sir William Moore, K.C.I.E., Honorary Physician to H.M. the Queen, formerly Surgeon-General with the Government of Bombay. Published under the authority of the Government of India. Seventh edition, revised by Major J. H. Tull Walsh, I.M.S., F.L.S. Price 12s.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Bibliothek v. Coler. Herausgegeben von O. Schjerning. Band 3. Nichtarzneiliche Therapie innerer Krankheiten. Von Dr. Butterzack, Oberstabsarzt und Regimentsarzt I. Lothring. Infanterie-Regiments No. 130. Zweite Auflage. Price M 4.50.

Band 15. Compendium der Operations- und Verbandstechnik. Von Dr. Eduard Sonnenburg, Geheimer Medicinalrat, Professor der Chirurgie an der Universität, und Dr. Richard Muhsam, 1. Assistenzarzt an der Chirur. Abteilung des Städtischen Krankenhauses Moabit in Berlin. Erster Teil: Allgemeine Operationstechnik, Verbandstechnik. Price M 4.

Erste Aerztliche Hülfe bei Plötzlichen Erkrankungen und Unfällen. In Verbindung mit Wirkl. Geh. Rath Dr. E. v. Bergmann, Geh. Med.-Rath Dr. C. Gerhardt, Geh. Med.-Rath Dr. O. Liebreich, und Dr. A. Martin. Bearbeitet und herausgegeben von Professor Dr. George Meyer, in Berlin. Price M 8.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, Paternoster House, Charing Cross-road, W.C.

Variations in Animals and Plants. By H. M. Vernon, M.A., M.D., Fellow of Magdalen College, Oxford. Price 5s.

KING, P. S. AND SON, Orchard House, Westminster, S.W.

Some Food Dangers. By Sir James Crichton-Browne, M.D., LL.D., F.R.S. Price 6d. net; 100 copies, 35s.; 50 copies, 20s.

MACMILLAN AND CO., LIMITED, London. (Published for the Asylums Committee of the London County Council.)

Archives of Neurology from the Pathological Laboratory of the London County Asylums, Claybury, Essex. Edited by Frederick Walter Mott, F.R.S., M.D., F.R.C.P., Director of the Laboratory and Pathologist to the London County Asylums; Physician in charge of Out-patients, Charing Cross Hospital. Vol. ii. Price not stated.

NAUD, C., 3, rue Racine, Paris.

Phototherapie et Photobiologie. Par les Docteurs Leredde et Pautrier. Price fr. 4.

Les Injections Mercurielles Intra-musculaires dans la Syphilis. Par le Dr. Alfred Levy-Bing, Ancien Externe des Hôpitaux, Ancien Interne de Saint-Lazare. Price fr. 5.

Petite Chirurgie Pratique. Par Th. Tuffier, Professor agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Beaujon, et P. Desfosses, Ancien Interne des Hôpitaux de Paris. Price not stated.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.

List of the Fellows, Members, Extra-Licentiates, and Licentiates of the Royal College of Physicians of London and of Holders of the Diploma in Public Health, granted conjointly by the Royal Colleges of Physicians and Surgeons. MCMIII.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

Burdett's Official Nursing Directory, 1903. Compiled and edited, with the assistance of a small Committee of Medical Men and Matrons, by Sir Henry Burdett, K.C.B. Fifth year. Price 5s. net.

SWEDENBORG SOCIETY, 1, Bloomsbury-street, London.

The Infinite and the Final Cause of Creation. By Emanuel Swedenborg. Translated from the Latin, with Introductory Remarks by James John Garth Wilkinson, M.D., M.R.C.S. Lond., &c. With a New Introduction by Lewis Field Hite, M.A. Harv. Price not stated.

THACKER, SPINK, AND CO., Calcutta (W. THACKER AND CO, 2, Creed-lane, Ludgate-hill, London, E.C.).

The Management and Medical Treatment of Children in India. By Edward A. Birch, M.D., F.R.C.P.L., late Principal of the Medical College, Professor of Medicine, and Physician to the Medical College Hospital, Calcutta. Fourth edition, revised and enlarged. Price 10s. 6d.

TREAT, E. B. AND CO., New York.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Dr. Carl von Noorden, Senior Physician to the City Hospital in Frankfurt a.M. Authorised American Edition, Translated under the Direction of Boardman Reed, M.D., of Philadelphia. Part I., Obesity. The Indications for Reduction Cures. Price 50 cents. Part II., Nephritis. Price $1.00.

VIGOT FRÈRES, 23, Place de l'Ecole-de-Médecine, Paris.

De l'Auto-représentation chez les Hystériques. Par le Dr. Adolphe Bain. Price fr. 2.

WALTER SCOTT PUBLISHING CO., Limited, London and Newcastle-on-Tyne.

The Lord of the Dark Red Star: being the Story of the Supernatural Influences in the Life of an Italian Despot of the Thirteenth Century. By Eugene Lee-Hamilton. Price 6s.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, W.C.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the

Jefferson Medical College Hospital. Second edition, revised and largely re-written. Vol. i. Remedial Measures other than Drugs; Prescribing; Preventive Medicine; Treatment of Diathetic and Nutritive Diseases. Vol. ii. The Treatment of Fevers and of the Respiratory, Circulatory, Digestive, Renal and Nervous Systems, and Skin Diseases. Vol. iii. Surgical Technique; Surgery of the Genito-Urinary, Respiratory, and Digestive Systems; Fractures and Dislocations; Anæsthesia. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMS, JOSEPH DIXON, M.D. St. And., M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Yeovil Rural District Council.

ADAMS, J. E., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

BARBOUR, J. M., M.B., C.M. Glasg., has been appointed Medical Officer of Health for Ramsey, Isle of Man.

BEVAN, A., M.B., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Ear Department at St. Thomas's Hospital.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health for the Chipping Sodbury (Gloucestershire) Rural District Council.

BOYCOTT, A. E., M.A., M.B., B.Ch., B.Sc. Oxon., has been appointed House Physician to St. Thomas's Hospital.

BRADFORD, A. B., M.B., B.S. Durh., has been appointed House Surgeon to St. Thomas's Hospital.

BROWNE, H. S. D., B.A. Cantab., L.R.C.P. Lond., M.R.C.S., has been re-appointed Clinical Assistant in the Throat Department at St. Thomas's Hospital.

CAMPBELL, N., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

FLOWER, FREDERICK J., M.R.C.S. M.S.A. Lond., has been appointed Medical Officer of Health for the Warminster Rural District.

FOX, IDA E., M.B., B.S. Durh., has been appointed House Surgeon to the East End Branch of the Children's Hospital, Sheffield.

GAWN, ERNEST KING, M.B., C.M. Aberd., has been appointed Deputy Public Vaccinator for the Bristol District of the Bristol Union.

GLANVILLE, W. M. G., B.A., M.B., B.Ch. Oxon., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

GUTHRIE, T., B.A. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Skin Department at St. Thomas's Hospital.

HAUGHTON, JOHN WELBY, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Honorary Medical Officer to the Falmouth Hospital and Dispensary.

HEDLEY, J. P., M.A., M.B., B.C. Cantab., has been appointed House Surgeon to St. Thomas's Hospital.

HENDERSON, T. B., M.A., M.B., B.Ch. Oxon., has been appointed House Surgeon to St. Thomas's Hospital.

HILDESHEIM, O., B.A., M.B., B.Ch. Oxon., has been appointed Assistant House Physician to St. Thomas's Hospital.

HUDSON, A. C., M.A., M.B., B.C. Cantab., has been appointed Junior Ophthalmic House Surgeon to St. Thomas's Hospital.

JONES, B. S., L.R.C.P. Lond., M.R.C.S., has been re-appointed Clinical Assistant in the Ear Department at St. Thomas's Hospital.

KERSWILL, JOHN BEDFORD, M.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health for the St. Germans (Cornwall) Rural District.

LEACH, R. E. H., B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Clinical Assistant in the Throat Department at St. Thomas's Hospital.

LOOSELY, A. E. A., B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Ophthalmic House Surgeon to St. Thomas's Hospital.

MAVROGORDATO, A., B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

NOLAN, W., L.R.C.S. Irel., L.R.C.P. & L.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

PHILLIPS, ARTHUR ROBERT, L.D.S. Eng., has been appointed Honorary Dentist to the Falmouth Hospital and Dispensary.

PRING, H. REGINALD, L.R.C.P. Lond., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the City of London Asylum.

ROB, J. W., B.A., M.B., B.C. Cantab., has been appointed House Surgeon to St. Thomas's Hospital.

SEARS, C. N., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

SEXTON, H. W., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Physician to St. Thomas's Hospital.

SHIPMAN, G. A. C., M.A., M.B., B.C. Cantab., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

SMALL, R., L.R.C.P. Lond., M.R.C.S., has been re-appointed Clinical Assistant in the Electrical and X-ray Departments at St. Thomas's Hospital.

SPRIGGS, E. I., M.D., M.R.C.P., has been appointed Physician to Out-patients to the Victoria Hospital for Children, Chelsea.

STRONG, W. M., M.A., B.C. Cantab., has been appointed Clinical Assistant in the Skin Department, and also Clinical Assistant in the Electrical and X-ray Departments, at St. Thomas's Hospital.

UPCOTT, H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

WHEEN, C., B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

WICKS, SPENCER, B.A., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the Premier, Bultfontein, and Dutoitspan Mines, Kimberley, South Africa.

WILLIAMS, PATRICK WATSON, M.D. Lond., M.R.C.S., has been appointed Lecturer on Practical Medicine at University College.

WILSON, THOMAS, M.D. Lond., F.R.C.S. Eng., has been appointed Honorary Obstetric Officer to the General Hospital, Birmingham.

YARRED, W. H. HARWOOD, B.Sc., L.R.C.P. Lond., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN CITY LUNATIC ASYLUM, Kingseat.—Medical Superintendent. Salary £400 per annum, rising to £600.

BRACEBRIDGE ASYLUM, near Lincoln.—Junior Assistant Medical Officer (female), unmarried. Salary £125, with apartments, board, attendance, &c.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary £120 per annum, with board and washing.

DUBLIN, TRINITY COLLEGE.—Professor of Anatomy.

DURHAM COUNTY ASYLUM.—Assistant Medical Officer. Salary £180 per annum, rising to £220, with rooms, board, and attendance.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Remuneration at £30 per annum, with board, residence, and washing.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £120 per annum, with board and lodging.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician (salary at rate of £40 per annum), House Surgeon (salary at rate of £40 per annum), Assistant House Physician (salary at rate of £20 per annum), and Assistant House Surgeon (salary at rate of £20 per annum). All tenable for six months. Also an Anæsthetist. Honorarium 25 guineas per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Junior House Physician. Salary £50, with board and apartments.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Resident Medical Officer. Salary £120 per annum, with board, residence, and washing.

NORTH RIDING INFIRMARY, Middlesborough-on-Tees.—Assistant House Surgeon, unmarried.

PORT OF LONDON SANITARY AUTHORITY.—Boarding Medical Officer. Salary £5 5s. per week.

PRESTON ROYAL INFIRMARY.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, washing, &c.

QUEEN'S JUBILEE HOSPITAL EXTENSION, Earl's Court, S.W.—Honorary Physician.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon for six months. Salary £60 per annum, with board, lodging, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Ventnor.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—House Surgeon for six months. Salary at rate of £100 a year, with board, lodging, and washing.

SEAMEN'S HOSPITAL ("DREADNOUGHT"), Greenwich, S.E.—House Surgeon. Salary £65 per annum. Also Junior Resident Medical Officer. Salary £40 per annum. Both with board, residence, and washing.

SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £50 per annum, with board and residence.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months.

WEST RIDING ASYLUM, Wakefield.—Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

DICKSON.—On Feb. 24th, at Scarsdale-villas, Kensington, the wife of T. Hugh Dickson, M.A., M.B. Cantab., of a daughter.

GILMER.—On Jan. 7th, at 61, The Terrace, Wellington, New Zealand, the wife of Hamilton A. H. Gilmer, of a son.

RIMELL.—On Feb. 24th, at Long Sutton, Lincolnshire, the wife of Alfred Tom Rimell, M.D. Durh., of a daughter.

MARRIAGES.

DAVIDSON—NAYLOR.—On March 3rd, at Christ Church, Lancaster-gate, by the Rev. K. Jameson, of Chiselhurst, assisted by the Rev. H. G. Bird, vicar of St. Andrew's, Hillingdon, John Davidson, M.B. Lond., of Uxbridge, to Clarice Helen Metcalfe Naylor, daughter of the late F. A. Naylor, D.S.P., Central Provinces, India.

SLOANE—MARSTON.—On Feb. 24th, at St. Michael's Church, Coventry, John Stretton Sloane, M.S. Lond., F.R.C.S. Eng., to Emily Hilda, youngest daughter of the late George Marston, of Enderby, Leicester.

DEATH.

CROSSE.—On Feb. 24th, at his residence, Albemarle-street, W., William Henry Crosse, M.D. Durh., aged 45 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE NOTTINGHAM HOSPITAL FOR CHILDREN.

MATTERS at the Nottingham Hospital for Children do not seem to be in a very satisfactory condition. The last two house surgeons have resigned and the crux of the question would appear to be in the influence exercised by the lady superintendent. In THE LANCET of Sept. 13th, 1902, p. 784, we published a letter from the then house surgeon, Dr. James Campbell, wherein he quoted a resolution passed a fortnight previously by the board of management to the following effect: "That the lady superintendent be given to understand in cases which she believes the house surgeon is not properly carrying out the instructions of the honorary medical staff that it is her duty to report such case at once to the board through the chairman." Dr. Campbell resigned his post at about this date, for in the same issue of THE LANCET appeared the announcement that the post of house surgeon to the Nottingham Hospital for Children was vacant. Mr. C. E. Gaitskell thereupon applied for the post and was elected to it. He made inquiries about the above-mentioned by-law and was informed by the chairman that it had been rescinded. Mr. Gaitskell said that he would accept the post on condition that he was in no way interfered with by the lady superintendent. To this the board of management agreed and Mr. Gaitskell entered on his duties.

About the end of January, 1903, scarlet fever broke out in the hospital and two patients were removed to the fever hospital. Four or five days later Mr. Gaitskell heard one nurse say to her companion that another nurse was ill and had been ill for some three days. Mr. Gaitskell mentioned this fact to one of the honorary medical staff and he mentioned it to the lady superintendent. She in her turn asked Mr. Gaitskell to see the patient and added that it was his duty to know if any nurse were ill and to apply to herself as to a time to see the patient. Mr. Gaitskell examined the nurse and considered her to be suffering from scarlet fever. On the following day one of the honorary medical staff confirmed this diagnosis, the case was notified, and the patient was removed to the fever hospital. About a week later the chairman at a board meeting asked Mr. Gaitskell why he had sent a nurse to the fever hospital who had not got scarlet fever at all. To this Mr. Gaitskell said that it was the first that he had heard of the matter and asked the chairman to tell him from whom he derived his information. To this the chairman replied that he did not know but that he would find out. Apparently the information came from the patient herself. On Feb. 11th Dr. L. W. Marshall requested Mr. Gaitskell to see the lady dispenser with a view of finding out whether she were physically fit to perform her duties. Mr. Gaitskell saw the dispenser (Miss Rose) and came to the conclusion that she was recovering from a cold, that her temperature was normal, and that she was fit to discharge her duties. On Feb. 12th Dr. Marshall informed Mr. Gaitskell that he had just seen Miss Rose, who told him that she had been dismissed by the lady superintendent as being not well enough to perform her duties. Mr. Gaitskell saw the lady superintendent who said that as Miss Rose was not well she had engaged another dispenser. Mr. Gaitskell answered that as he had seen the dispenser and had come to the conclusion that she was physically fit, he considered that the lady superintendent had interfered in a medical matter and that he should bring the question before the board. That same evening Mr. Gaitskell received a letter from the chairman which began: "Seeing that Miss Rose is not well I consider that Miss Ducane (the lady superintendent) is justified in finding another lady to act as 'dispenser.'" Mr. Gaitskell replied that the chairman seemed to be under a misapprehension and that the lady was not ill, and, further, that he considered it his duty to keep Miss Rose in her post until he heard from the chairman again. The chairman answered that as Miss Rose had only been appointed temporarily for ten days and had held the post for three weeks he therefore appointed Miss King in her place. Mr. Gaitskell replied that he bowed to the chairman's ruling but that he objected to the lady superintendent interfering in a medical matter. On Feb. 26th a special meeting of the board was held in which a letter from the chairman was read, stating that he had heard from several influential gentlemen in the town that Miss Ducane had been insulted by Mr. Gaitskell. Letters were read from sisters and nurses, with whom Mr. Gaitskell allowed that he had found fault, endorsing the complaint.

Finally, Mr. Gaitskell was informed that a motion had been passed, but not unanimously, that he should apologise to the chairman for his conduct. Mr. Gaitskell refused to apologise, alleging that he had only answered as he considered it his duty to, that the chairman had acted in a medical matter on the authority of the lady superintendent without consulting him, and that he then and there wished to resign.

We have written the above upon Mr. Gaitskell's statement, fortified by letters and a copy of the by-laws.

By-law No. 10 of those concerning the house surgeon states that "the nursing staff and the servants shall be medically in the care of the house surgeon." It appears to us that the lady superintendent was exceeding her duties in dismissing the dispenser as ill when the house surgeon said that she was well. We have no wish to hold up house surgeons as infallible, but any house surgeon presumably knows better whether a patient is well or ill than does a lady superintendent, even if she be a fully-trained nurse, which by-law 1 of those dealing with the lady superintendent says that she shall be. Mr. Gaitskell was educated at Guy's Hospital and took the diploma of M.R.C.S. Eng., L.R.C.P. Lond. It would be interesting to know where Miss Ducane was trained and for how long. We think, moreover, that the members of the committee of management would be well advised if they took steps to remedy an obviously unsatisfactory state of things.

UNFORTUNATE ADVERTISEMENT.

To the Editors of THE LANCET.

SIRS,—Some kind friend has sent you a cutting from a paper containing an advertisement of Earl's pepsine of which article my recommendation is given. I did not notice the advertisement in question but long ago I requested that my report on Earl's pepsine should be discontinued. I have now stated that if it were not I should apply for an injunction to restrain its publication. I gave the report in question about 30 years ago, before I was a Fellow of the College of Surgeons and whilst I was practising exclusively as an analytical chemist. I never got a fee for it, but, on the contrary, pecuniarily assisted the proprietor of the drug to manufacture it, as I felt interested in him. It is the only drug I have ever made a report on for trade purposes. Years after my report many of the leading physicians of Dublin gave laudatory certificates of the efficacy of this pepsine, and I believe that their certificates are still made use of judging by the circular of which I inclose a copy and which has only just come into my possession.

Your obedient servant,

Dublin, March 2nd, 1903. CHARLES A. CAMERON.

**** The circular inclosed by Sir Charles Cameron contains 18 so-called "medical reports" from various practitioners. We observe among the signatories of these no less than seven ex-presidents of the Royal College of Surgeons in Ireland. We think that any of these gentlemen who are still alive should follow Sir Charles Cameron's example and insist through their solicitors on the suppression of their "medical reports."—ED. L.

A WARNING.

To the Editors of THE LANCET.

SIRS,—In reference to the letter published in THE LANCET of Feb. 28th, p. 628, headed "A Warning," it will interest Dr. W. K. Sibley and others to know that the German giving the name of "Dr. Richard Osten of Berlin and the London Hospital" was arrested in my presence on Sunday evening Feb. 22nd, having succeeded in obtaining further sums of money under false pretences from two of my acquaintances. He was brought up before the magistrate the following morning and remanded one week for inquiries, so that by this time probably he has realised the penalty of his depredations.

I am, Sirs, yours faithfully,

Harley-street, W., March 3rd, 1903. J. H. STOWERS.

WANTED—A SANATORIUM.

To the Editors of THE LANCET.

SIRS,—Is there any sanatorium where a domestic servant can be sent with early tuberculous phthisis for open-air treatment, and what is the cost? I am, Sirs, yours faithfully,

March 3rd, 1903. ENQUIRENS.

**** There are as yet very few institutions, save those that serve local needs, where such a case could be taken at any greatly reduced rates.—ED. L.

THE DEATH OF MISS ELLEN MARY SHARP, M.B. LOND.

THE death of Miss Ellen Mary Sharp, M.B. Lond., a very able young member of our profession, took place at the Victoria Hospital, Hull, last month in sad circumstances. Miss Sharp was senior house surgeon at the hospital and was taken ill on the last day of January, her symptoms pointing to influenza. In spite of regular and devoted attention in the hospital pneumonia supervened with fatal result on the tenth day of illness. At the close of her illness Miss Sharp was seen by Dr. Cavendish Molson, a homœopathic physician, sent to the hospital by her father with instructions to take entire charge of the case, which he appears to have attempted to do upon "eclectic" and "bio-chemical" principles, of which the exhibition of one-billionth of a grain of common salt may be taken as an example, if the newspaper report which has reached us may be taken as correct. Miss Sharp's death was made the subject of a post-mortem inquiry, when the father of the deceased lady wrote a strong letter to the coroner alleging neglect and ill-treatment against the staff of the hospital on several counts. The allegations were categorically contradicted by many witnesses. The assistant house surgeon proved that Miss Sharp was in accordance with her own desire from the beginning of her illness under the care of the assistant physician to the hospital, Miss M. C. Murdoch, whose instructions were faithfully carried out. Miss Murdoch described Miss Sharp's illness from day to day and gave an extraordinary account of Dr. Molson's intervention and of his theory of treatment by bio-chemistry. It appears that in his chemical practice microscopical doses of salts are administered to

the patient upon analogy because plants receive microscopical doses of salts from the soil. Evidence was given to show that Dr. Molson's treatment helped the unfortunate patient down the hill, but it seems probable that when bio-chemistry was given a trial the inevitable end was near. The coroner in summing up made some very strong remarks upon the attitude taken by the father in slandering the hospital. He considered that Dr. Molson must have told Mr. Sharp that his daughter had been wrongfully treated and that Dr. Molson was to be blamed. The jury brought in a verdict of death from natural causes and in exonerating the hospital staff from all blame expressed their opinion that Mr. Sharp and Dr. Molson should have been present at the inquest and should be strongly censured.

We do not want to add to Mr. Sharp's grief at the loss of his accomplished daughter, but we must endorse the view of the jury that his attitude was reprehensible. We presume, as the coroner seems to have presumed, that Dr. Molson gave an unfavourable account of the treatment that Miss Sharp received before he attempted to arrest death by a display of bio-chemistry. Mr Sharp certainly should have obtained genuine evidence against the hospital authorities before he committed himself to gross accusations against them in a letter to the coroner. Had he made the least inquiry he would have found his belief entirely erroneous. We prefer not to criticise Dr. Molson's attitude, as the principles and practice of bio-chemistry, as far as we can understand them, do not admit of serious discussion in a medical journal. Miss Murdoch was, in the circumstances, compelled to meet Dr. Molson and to allow his method of treatment to be employed, for it would have been impossible to ignore the letter from Mr. Sharp authorising Dr. Molson to take entire charge of the patient.

FAMILIAR LINES.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 14th you are good enough to say that the lines "Our Doctors," quoted on p. 448 from the *Westminster Hospital Gazette*, have "a familiar ring to us." The lines in question are a quotation from my "Song of the General Practitioner" (see p. 29 of "Musa Medica: a Sheaf of Song and Verse") and I want to thank you for your kind reference. I am, Sirs, yours faithfully,

Feb. 25rd, 1903. J. JOHNSTON.

OZONE.

To the Editors of THE LANCET.

SIRS,—One of the latest of the cases in my practice in which I have employed this valuable antiseptic and in which I found very decided and very rapid benefits from its administration I consider quite worthy of being recorded. A patient, aged 17 years, was suffering from pneumonia complicated with pleurisy; his temperature was 105° F., with very rapid and laboured breathing; his lips were cyanotic, and, in fact, all the symptoms were very grave. I adopted the usual treatment and the symptoms not improving on the third day I introduced ozone. The same evening there was a marked change for the better, the pulse had fallen from 110 in the morning to 100, the breathing was less rapid and less laboured, and the temperature was 104°. The symptoms continued to improve gradually, all the bad symptoms subsiding, and the patient, I am happy to say, made a very favourable recovery. I at first employed the ozone for a quarter of each hour, gradually extending its use until it was used continuously. I may mention another case of diffuse cellular erysipelas. The presence of ozone produced an important change in the atmosphere of the patient's room, whilst there was an obvious benefit to the patient.

I am, Sirs, yours faithfully,

J. E. S. BARNES, L.R.C.P., L.R.C.S., L.M. Irel., B.A. Dub.

Bexley Heath, Feb. 24th, 1903.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs to acknowledge subscriptions from Colonel T. F. McGann, I.M.S. (retired), and Captain Heffernan, R.A.M.C.; also further contributions from the officers of the Indian Medical Service in civil employment, kindly collected by the Director-General of the Indian Medical Service (Sir B. Franklin, K.C.I.E.), making a total from that source of £513 6*s.* 2*d.* The gross amount collected was nearly £918. Of this sum £750 have been invested in the names of trustees (Surgeon-General Muir, Surgeon-General A. H. Keogh, C.B., and Lieutenant-Colonel W. Babtie, V.C., C.M.G.) for the benefit of the infant. Of the remainder a portion has been devoted to establishing "Y" in a position which gives her congenial employment, and the balance, after deducting necessary legal and other expenses (which will not exceed £12), will be handed over to her. She is extremely grateful and returns her sincere thanks to all who have come forward with their generous assistance.

A Country Practitioner.—Every patient has the right to select his or her own medical adviser and to change him at will. But when a practitioner is called upon to supersede his professional brother it is his duty to ascertain that the former medical adviser has been properly informed that his services are no longer required. In this case the patient seems to have recurred to the original medical adviser. We cannot judge of the conduct of the temporary medical adviser because we do not know in what terms he was invited to attend or what steps he took in reply. But surely no harm has been done.

A. B. C.—The Rensum bit is a flexible indiarubber rod passing behind the bit proper which prevents a horse from taking the bit between the molars, which is the usual prelude to bolting. It is quite humane. Reference has already been made in THE LANCET to the Rensum bridle.

E. H. A.—The practice has obvious advantages but is not suitable in the case of delicate children. The family medical man should be consulted before the change in the child's habit is made. There is no risk of flatfoot.

W. A. B.—1. The answer depends upon the distance of the stream from the source of pollution. A chemical analysis might be made of the water. 2 and 3. The contingencies alluded to are impossible.

M. H. H. is referred to THE LANCET of Jan. 18th, 1902, p. 183. The method was simply immersion in a strong solution of silicate of soda (10 per cent.).

L. B. is thanked for his communication, but arrangements are made at this office for the regular receipt of such information.

M. B.—We regret that we are unable to help our correspondent.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (14th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (9th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—Mr. F. S. Eve: Certain Conditions which may be mistaken for Appendicitis and Unusual Cases of that Affection.—Dr. A. H. N. Lewers: A Case of Abdominal Hysterectomy for Retro-peritoneal Cervical Fibroid weighing 13½ pounds.

TUESDAY (10th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. F. P. Weber: A Case of Multiple Myeloma (Myelomatosis) with Bence-Jones Proteid in the Urine (Myelopathic Albumosuria of Bradshaw, Kahler's Disease) and a Summary of Published Cases. [With a Report on the Chemical Pathology by Dr. R. Hutchison and Dr. J. J. R. Macleod.]

CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Chelsea gardens, Grosvenor-road, S.W.).—8.30 P.M. Annual Clinical Debate on Diabetic and Non-Diabetic Glycosuria in which Dr. H. White, Dr. Pavy, Dr. Saundby, and Dr. R. Bradford will take part.

WEDNESDAY (11th).—SOUTH-WEST LONDON MEDICAL SOCIETY (Bolingbroke Hospital, Wandsworth Common).—8.45 P.M. Paper:—Mr. M. Sheild: Some Recent Experiences in Diseases of the Breast.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.15 P.M. Demonstration of Cases of Interest.

THURSDAY (12th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. I. Parsons and others. Paper:—Mr. S. Bishop: Procidentia Uteri, with special Reference to an Operation upon the Sacro-Uterine Ligaments. Discussion continued.

FRIDAY (13th).—THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (9, Adelphi-terrace, Strand, W.C.).—8 P.M. Paper:—Dr. J. M. Wilson: Regulations under the Dairies, Cowsheds, and Milkshops Orders.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, W.).—8 P.M. Card Specimens:—Mr. C. B. James, Dr. L. Buchanan, Mr. S. Mayou, Mr A. Lawson, and Dr. W. E. Thomson. 8.30 P.M. Papers:—Mr. F. T. Collins and Mr. J. H. Parsons: Anophthalmos in a Chick.—Mr. S. Mayou: Treatment of Trachoma by X Rays.—Dr. W. E. Thomson and Dr. L. Buchanan: An Account of Certain Cases of Injury to the Eye of the Child during Labour.—Mr. J. B. Lawford: Notes of a Case of Dislocation of the Eyeball.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—4 P.M. Papers will be read and Cases shown by Dr. J. Horne, Dr. J. E. McDougall, Dr. Lodge, Mr. M. Collier, and Dr. D. Grant. 8 P.M. Annual Dinner at the Imperial Restaurant.

CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. T. S. Ellis: Skin Sliding. Dr. W. H. B. Brook: Spinal Caries with Total Paraplegia, Costotransversectomy with Complete Recovery.—Mr. S. Paget: Successful Treatment of Prolapse of Bowel with Incontinence by injection of Paraffin under the Mucous Membrane.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Vermiform Appendix, Some Points in its Anatomy and Pathology.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Russell: Mediastinal Disease.

TUESDAY (10th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. H. T. Bulstrode: The Causes, Prevalence and Control of Tuberculosis. (Milroy Lecture.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: High Frequency Electrical Currents, with Treatment of Some Diseases.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. W. D. Halliburton: On the Chemistry of Muscle and Nerve. (Lecture on Advanced Physiology.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. A. Turner: Neuritis.

WEDNESDAY (11th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Vermiform Appendix, Some Points in its Anatomy and Pathology.

POST GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. S. Taylor: Diagnosis and Treatment of Valvular Disease of the Heart.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Schorstein: Mitral and Tricuspid Stenosis.

THURSDAY (12th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON (Pall Mall East).—5 P.M. Dr. H. T. Bulstrode: The Causes, Prevalence, and Control of Tuberculosis. (Milroy Lectures.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. P. Dunn: Conjunctival Affections.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Colman: The Management of Growing Children.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Surgical Cases. (Post-Graduate Course.)

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. T. G. Brodie: On the Circulation. (Lecture on Advanced Physiology.)

FRIDAY (13th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. W. McAdam Eccles: The Vermiform Appendix, Some Points in its Anatomy and Pathology.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. A. D. Waller: On the Action of Anæsthetics and Narcotics. (Lecture on Advanced Physiology).

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Dr. K. Pearson: Character Reading from External Signs.

EDITORIAL NOTICES.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 5th, 1903.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall	Solar Radia tn Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb. 27	29·46	S.W.	0·05	64	52	45	48	51	Cloudy
,, 28	29·35	E.	0·41	57	47	38	39	40	Overcast
Mar. 1	29·67	S.W	0·03	60	49	38	42	45	Cloudy
,, 2	29·31	S.W.	0·18	67	51	36	40	41	Raining
,, 3	29·04	N.W.	0·39	62	48	41	40	41	Overcast
,, 4	29·82	S.W	0·02	·1	55	37	43	45	Overcast
,, 5	29·76	W.	0·08	56	50	45	47	48	Raining

During the week marked copies of the following newspapers have been received: *Altrincham and Bowden Guardian, Yorkshire Post, Westminster Gazette, Warrington Guardian, Sussex Daily News, Colchester Gazette, Belfast News Letter, Birmingham Post, Aberdeen Free Press (Weekly), Brighton Gazette, Surrey Advertiser, Bristol Mercury, Tenby and County News, Dublin Express, Bradford Observer, Morning Post, Hereford Mercury, Daily Graphic, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Walsall Observer, Halifax Evening Courier, Scotsman, &c.*

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